



State of Utah

JON M. HUNTSMAN, JR.  
Governor

GARY R. HERBERT  
Lieutenant Governor

## Department of Administrative Services

KIMBERLY K. HOOD  
Executive Director

### Division of Facilities Construction and Management

DAVID G. BUXTON  
Director

## ADDENDUM No. 3

Date: September 22, 2008

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From: Brian Bales, Project Manager, DFCM

Reference: Student Center Improvements – Redwood Road Campus  
Salt Lake Community College  
DFCM Project No. 07353660

Subject: **Addendum No. 3**

Pages	Addendum Cover Sheet	1 page
	Architect's Addendum	60 page
	Total	61 pages

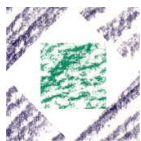
### THIS PAGE ONLY FAXED – SEE DFCM WEBSITE FOR ENTIRE ADDENDUM

**Note:** *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

**3.1 SCHEDULE CHANGES:** None.

**3.2 GENERAL ITEMS:** Architect's Addendum containing specification and drawing clarifications.

**HFSARCHITECTS**

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**Addendum No. 03**

Project: Student Center Improvements  
Address: Salt Lake Community College Redwood Campus  
City, State: Utah

Date: 18 September 2008  
Project No.: 0762.01  
Owner No.: 07353660  
Owner: DFCM

**To all Bidders of Record:**

This addendum forms a part of the contract documents and modifies the original specifications and drawings as noted below. Items of general information are included without reference to the plans and specifications. Revisions to the specifications are referenced by page number and paragraph heading on that page. Revisions to the drawings are reference by the drawing number. Unless otherwise stated, any changes herein offset only the specific drawings, words, or paragraphs mentioned, and the balance of the drawings and specifications remain in full force. Acknowledge receipt of this addendum in the space provided on the Bid form. Failure to do so will subject the Bidder to disqualification.

**ADDENDUM**

Item No.	Section or Sheet No.	Description
<b>General Items:</b>		
3 -1	General	Alternate #1 on the North End landscaping has been included in the base bid for this project, therefore no alternates for this project.
3 -2	General	The installation and purchase of the Bruin sculpture on the North side is funded through the college and not in this contract. Delete all references to the Bruin sculpture on sheets L1.1 and L2.1.
3 -3	General	See attached structural sheet SF101 and AS101, AS102, AS103 regarding the utility tunnel running North to South on the West side of the Student Center near the new West stair. The loads over the tunnel are restricted to the loads given in IBC 2006 Section 1607.6. The tunnel will support HS20-44 loading per the above referenced section.
3 -4	General	Contractor shall include a \$2,000 allowance for two (2) soil boring holes. Location of boring and test reports required will be provided to successful contractor.
3 -5	General	Clarification: The College's intent is "to coordinate schedules with the affected departments in the Student Center and the contractor to allow as much work as possible during normal business hours. We will attempt to temporarily displace individuals out of the immediate construction areas so as to allow the contractor to get in and get the job done as possible. The contractor will need to understand that business as usual will mean flexibility working around normal

Item No.	Section or Sheet No.	Description
		business operations as much as possible."

#### Specifications Items:

3 -6	01230	<b>Delete</b> section 01230 of Alternates - The alternate has now been included in base bid.
3 -7	02813	<b>Add</b> - Lawn Sprinkler Piping, see attached specification 02813.
3 -8	02900	<b>Add</b> - Landscaping, see attached specification 02900.
3 -9	03300	<b>Delete</b> entire Section 2.7 "Vapor Retarders" from Cast-In-Place Concrete.
3 -10	09310	<b>Add</b> - Ceramic Tile, see attached specification 9310.
3 -11	10350	<b>Add</b> - Flagpoles - see attached specification 10350.

#### Drawing Items:

3 -12	A1/AS101	<b>Delete</b> "Alternate 1, See also..." from the note and <b>replace</b> with "See also Landscape"
3 -13	AS101	See revised Site Key Plan showing the location of the tunnel near the new West stair. See attached drawing AS101.
3 -14	A3/AS102	See revised plans showing location of the tunnel. See attached drawing AS102.
3 -15	AS103	A1 & A3: See revised plans of on this attached sheet AS103.
3 -16	AD121	<b>Delete</b> note 5 "Remove exterior wall and glass complete" and <b>Replace</b> with "Remove window system complete and salvage to owner."
3 -17	AD121	<b>Replace</b> attached drawing A3/AD121 of the Student enrollment center demolition plan.
3 -18	AD122	<b>Replace</b> attached drawing A3/AD122 of the Student enrollment center demolition reflected ceiling plan.
3 -19	A1/AE101	<b>Delete</b> plan on A1/AE101 and <b>replace</b> with attached drawing A1/AE101. The drawing now shows a revised fire-rated hatch pattern.
3 -20	C3/AE112	<b>Add</b> note to patch and repair metal column around both counters that are removed.
3 -21	AE121	<b>Add</b> to Doors #211 and 212 to provide (2) 16 GA. metal stud framing to both sides of the door frames.
3 -22	AE121	<b>Replace</b> attached drawing A3/AE121 of the Student enrollment center plan.

Item No.	Section or Sheet No.	Description
3 -23	AE122	<b>Replace</b> attached drawing A3/AE122 of the Student enrollment center reflected ceiling plan.
3 -24	AE122	<b>Add</b> bulkhead ceiling detail titled "Ceiling Detail" to the ceiling details for the area near grid 9 and grids E & F.
3 -25	AE501	See attached sheet AE501 to show utility tunnel location A4/AE501 and revised stair nosing note on B1/AE501.
3 -26	AE501	Detail B1: <b>Add</b> note "Stair nosing style no. 801 as manufactured by American Safety Tread Co. Or approved equal. Nosing shall be cast in Alumacast. Nosings shall be furnished with concealed cast anchors. All metals shall be furnished in natural metal finish."
3 -27	AE601	<b>Delete</b> elevation B3 and replace with attached drawing B3/AE601.
3 -28	AE601	<b>Replace</b> door type "C" with attached drawing C4/AE601.
3 -29	AE601	Door Schedule: Door # 201A <b>Delete</b> head and jamb condition references and <b>add</b> attached details Head & Jamb Door 201A Sheet AE601.
3 -30	B3/AE601	<b>Add</b> attached window head and jamb condition details to the (2) new windows.
3 -31	L1.1	<b>Delete</b> all references to "Add alternate #1" from this sheet, alternates are all part of base bid.
3 -32	L1.1	Clarification: The sign called out on "Note 3" is a directional sign at the head of the Southbound sidewalk. See attached photo that shows the sign and the concrete wall mentioned in "Note 4".
3 -33	L1.1	<b>Remove</b> two small trees on either side of the sign referenced in "Note 3" to be replaced after construction. See attached photo that shows those trees.
3 -34	MH110	Provide thermostatically controlled exhaust fans in food prep rooms as shown on the attached drawings MH110 SD-01-SD-03. Saw cut through existing concrete slab above ceiling as required to install new exhaust ductwork.
3 -35	MH110	Food Prep Rooms Add electrical circuits for 4 Each new Exhaust Fans EF-1, 1/8 HP, 120 Volt, in Food Prep Rooms. See Mechanical Sheet SD-01 included with this addendum for locations. Connect new exhaust fans to a new 1P-15A breaker in the panelboard serving each food preparation room. Provide weatherproof motor disconnect switch with thermal protection at each new exhaust fan.
3 -36	ED101	Work Area 206: <b>Delete</b> demolition of existing fixtures in Work Area 206 (Existing Room 270E). See attached Sheet ED101, Revision No. 1.

Item No.	Section or Sheet No.	Description
3 -37	EL101	Reception 204 and Work Area 206: <b>Delete</b> new F-1 Fixtures in Reception 204 and Work Area 206. Use existing 2' x 2', 2 Lamp fixtures as shown on attached Sheet EL101, Revision No. 1.
3 -38	E-601	Fixture Schedule: Add Photocell for Fixture F-13, Gardco Catalog No. Option "PCB".

**Prior Approvals:**

3 -39	Architectural	Curries Hollow Metal Frames and Doors
3 -40	Electrical	Listing herein of the following equipment submitted for prior approval indicates that the brand name and general characteristics are acceptable, but does not relieve the Contractor of the responsibility of providing equipment and accessories as specified in the Contract Documents unless specific mention of the departure was made in the submittal and acknowledged in writing by the Architect and/or Engineer.

ITEM	MANUFACTURER	CAT. NO.
Fixture F-1	Prudential	P-8022S-3T8-18PL-W-DC-120-277-X1-RSE
Fixture F-8	Spectrum	SPS8HF-1-26QPL-DA1
Fixture F-13	Lithonia LSI Deco	WSR-100M-WT-120-PE-QRS-LPI HIWSD-3-100MH-F-120-BRZ-PCI120-SQT D440-100-M-D-WT-MT-BZ-Q
Fixture F-14	Lumux Prescolite Bronzelite	LLF800-MH100-120-BRONZE-QS 93047M5-120-BZ-MOD: Quartz Restrike WLA4-100MH-H-120-BMA1-QR
Fixture F-15	Hydrel LSI	7100-100M-120-HFL-KM-SMSAX-BD-LPI-BZ DRS-HF-100MH-F-MT-BRZ-BD/SMC-BRZ
Fixture F-16	Hydrel LSI	7100-100M-120-SP-KM-SMSAX-BD-LPI-BZ DRS-SP15-100MH-F-MT-BRZ-BD/SMC-BRZ

**Attachments:**

Specification 02813 - Lawn Sprinkler Piping  
 Specification 02900 - Landscaping  
 Specification 09310 - Ceramic Tile  
 Specification 10350 - Flagpoles  
 24"x 36" sheet AS101- AS103, Revision 1  
 11"x17" sheets A3/AD121 & A3/AD122  
 8.5"x11" sheet AE101  
 11"x17" sheet A3/AE121 & A3/AE122  
 Ceiling Detail AE122  
 24"x 36" sheet AE501, Revision 1  
 8.5"x11" sheet B3/AE601  
 8.5"x11" sheet AE601 Door Types  
 8.5"x11" sheet AE601 Door Head

Item No.	Section or Sheet No.	Description
		8.5"x11" sheet AE601 Door Jamb
		8.5"x11" sheet AE601 Window Head
		8.5"x11" sheet AE601 Window Jamb
		8.5"x11" sheet AE601 Ceiling Detail
		Sheet L1.1 Photo
		24"x 36" sheet SF101, Revision 1
		8.5"x11" sheet MH101 SD-01 - SD-03
		24"x36" sheet ED101 & EL101, Revision 1

**SECTION 02813 - LAWN SPRINKLER PIPING**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. The Irrigation Plan is diagrammatic. All lines, heads and equipment are shown in approximate locations for purposes of graphic display and shall not be considered as exact locations. The drawings shall not be measured. If any discrepancies shall arise in the layout or installation of the irrigation system, the contractor shall consult with the Landscape Architect. Failure to consult with the Landscape Architect prior to the installation of the system may result in the removal, re-installation or changes to the system at the contractors expense.
- B. The contractor shall verify the existing water pressure at the point of connection. If the existing water pressure is less than 60 psi or greater than 90 psi, the contractor shall immediately notify the Landscape Architect before proceeding. If the existing water pressure is within the acceptable 60 - 90 psi, the contractor shall proceed with the installation of the system and a report of the existing water pressure shall be forwarded to the Landscape Architect.
- C. This Section includes: piping, valves, sprinklers, lawn sprinkler specialties, drip emitter system, replacement of existing lawn areas, and electrical control wiring.
- D. In all instances the new trenches through the existing lawn areas are to receive NEW sod. Layout the piping configurations prior to the beginning of trenching operations. Use a sod cutting machine to remove the existing lawn and provide a smooth edge to receive the NEW sod pieces. All interfaces between the existing lawn and new sod pieces must be smooth and uniform in grade.
- E. Insure that all trenches have been thoroughly settled with water before installing NEW sod.
- F. All new pipes are to installed with a minimum of 12 inch separation between pipes, either horizontally or vertically.
- G. The NEW irrigation system is being installed in conjunction with an EXISTING Irrigation System.
- H. The existing irrigation system must **NOT** be disconnected until the new connections are ready to be made in order to preserve the integrity of the existing lawn, plants and trees.
- I. Refer to the drawings for the treatment of the existing irrigation mainlines, lateral lines and heads. When the drawings indicate that the existing lateral lines and heads are to be abandoned, these items shall be abandoned in place. Insure that all abandoned pipes are buried a minimum of 4inches below the finish grade.
- J. The drawings indicate the location and status of the existing mainlines and whether or not the mainlines are to be used with new connections as called for on the drawings.

**1.3 DEFINITIONS**

- A. Circuit Piping: Downstream from control valves to sprinklers, specialties, and drain valves. Piping is under pressure during flow.
- B. Pressure Piping: Downstream from point of connection to water distribution piping to and including control valves. Piping is under water distribution system pressure.
- C. The following are industry abbreviations for plastic materials:
  - 1. PVC: Polyvinyl chloride plastic.

**1.4 SYSTEM PERFORMANCE REQUIREMENTS**

- A. Minimum Water Coverage: 100 percent of turf and planting areas.
  - 1. 100 percent of turf and planting areas.
  - 2. All heads will be spaced uniformly.
  - 3. The spacing between heads shall not exceed the manufactures recommendations.
- B. Location of Sprinklers and Specialties:
  - 1. Design location is approximate. Make adjustments necessary to avoid buildings, retaining walls, fences, trees, signs and light standards.
  - 2. Spray Patterns: Adjust all nozzle spray patterns by changing nozzles or pattern types to eliminate throwing water directly onto buildings.
  - 3. Locate heads a minimum of 1 inch from sidewalks, curbs, mowstrips and all hardsurfaces.
  - 4. Heads located adjacent to buildings shall be a minimum of 6 inches from building walls.
- C. Location of Sprinklers and Specialties: Design location is approximate. Make minor adjustments necessary to avoid buildings, retaining walls, fences, trees, signs and light standards.
- D. Minimum Working Pressures: The following are minimum pressure requirements for piping, valves, and specialties, unless otherwise indicated:
  - 1. Pressure Piping: 200 psi
  - 2. Circuit Piping: 200 psi

**1.5 SUBMITTALS**

- A. Product Data: Include pressure rating, rated capacity, settings, and electrical data of selected models for the following:
  - 1. Electric Control Wires
  - 2. Wire Splice Fittings
  - 3. Plastic Valve boxes.
  - 4. Sprinkler heads: Include all varieties on Irrigation Legend.
  - 5. PVC Pipe.
  - 6. PVC Fittings.
  - 7. Primer & Glue.

8. Swing Joints.
9. Quick Couplers
10. Ball Valves
11. Automatic Electric Control Valves. (Plastic)

B. Maintenance Data: Include data for the following:

1. Automatic control valves.
2. Sprinkler heads
3. Specialties.
4. Drip emitter system

1.6 QUALITY ASSURANCE

- A. Product Options: Drawings indicate size, profiles, and dimensional requirements of lawn sprinkler piping components and are based on specific types and models indicated.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
- C. Comply with NFPA 70, "National Electrical Code," for electrical connections between wiring and electrically operated devices.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Preparation for Transport: Prepare valves according to the following:
  1. Ensure that valves are dry and internally protected against rust and corrosion.
  2. Protect valves against damage to threaded ends and flange faces.
  3. Set valves in best position for handling. Set valves closed to prevent rattling.
- B. During Storage: Use precautions for valves according to the following:
  1. Do not remove end protectors unless necessary for inspection; then, reinstall for storage.
  2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off ground or pavement in watertight enclosures when outdoor storage is necessary.
- C. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.
- D. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.
- E. Protect flanges, fittings, and specialties from moisture and dirt.
- F. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

1.8 PROJECT CONDITIONS

- A. Research public utility records, and verify existing utility locations.
- B. Investigate and determine available water supply water pressure and flow characteristics.

1.9 SEQUENCING AND SCHEDULING

- A. Maintain uninterrupted water service to building during normal working hours. Arrange for temporary water shutoff with Owner.
- B. Arrange for water shut-off with Owner.
- C. Coordinate lawn sprinkler piping with utility work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Bronze Ball Valves:
    - a. Apollo Ball Valves; Conbraco Industries, Inc.
    - b. Grinnell Corp.; Mueller Co.; Water Products Div.
  - 2. Plastic, Automatic Control Valves:
    - a. Rain Bird Sprinkler Mfg. Corp.
    - b. Toro Co., Irrigation Div.
  - 3. Control-Valve Boxes:
    - a. AMETEK; Plymouth Products Div.
    - b. Carson-Brooks Plastics, Inc.
  - 4. Quick Couplers and Keys:
    - a. Rain Bird Sprinkler Mfg. Corp.
    - b. Toro Co., Irrigation Div.
  - 5. Sprinklers:
    - a. Rain Bird Sprinkler Mfg. Corp.
  - 6. Miscellaneous Specialties:
    - a. Rain Bird Sprinkler Mfg. Corp.
  - 7. GATE VALVES
    - a. American Flow Control

2.2 PIPES, TUBES AND CONDUITS

- A. 3" diameter and less PVC Pipe: ASTM D 1785, PVC 1120 compound, Schedule 40 -solvent weld joints.
- B. Flex swing risers shall be THICK-WALLED POLY PIPE as manufactured by Rainbird. This pipe is to be used only on 15 to 25 foot diameter spray heads between heads and lateral lines and shall not exceed a distance of 5 feet.

**2.3 PIPE FITTINGS**

- A. PVC Socket Fittings for Circuit Piping, Schedule 40: ASTM D 2466.
- B. PVC Socket Fittings for Pressure Piping, Schedule 80: ASTM D 2467. PVC Threaded Fittings: ASTM D 2464.
- C. PVC Sch 40 Sweep Ells for Control Wires (GREY).
- D. Fittings on flex swing risers shall be barbed insert ells made of THICK-WALLED POLY PIPE as manufactured by Rainbird.

**2.4 VALVES AND VALVE SPECIALTIES**

- A. Electric remote control valves:

All electric remote control valves shall be of the size and type as specified on the Irrigation Legend.

- B. Bronze Ball Valves: MSS SP-110, Class 150, 600-psi cold working pressure. Include bronze, two-piece construction body with regular port; chrome-plated brass ball; blowout-proof stem; PTFE seats and seals; threaded-end connections; and lever handle.
- C. Quick-Couplers: Factory-fabricated, bronze or brass, two-piece assembly. Include coupler water-seal valve; removable upper body with spring-loaded or weighted, locking rubber-covered cap; hose swivel with ASME B1.20.7, 3/4-11.5NH threads for garden hose on outlet; and operating key.

- 1. Locking Top: Include vandal-resistant, locking feature with two matching keys.

- D. Control-Valve Boxes: PE, ABS, fiberglass, polymer concrete, or precast concrete box and cover, with open bottom, openings for piping, and designed for installing flush with grade. Include size as required for valves and service.

- 1. Drainage Backfill: Cleaned gravel or crushed stone, graded from 1 inch to 3/4 inch minimum.

**2.5 SPRINKLERS**

- A. Description: Manufacturer's standard sprinklers designed for uniform coverage over entire spray area indicated, at available water pressure.
- B. Components: Plastic housing and stainless steel and corrosion-resistant interior parts.
- C. Pop-up, Spray Sprinklers: Fixed pattern, with screw-type flow adjustment and stainless-steel retraction spring.

**2.6 Control Wiring: UL 493, Type UF, solid-copper-conductor, insulated cable, suitable for direct burial.**

- 1. 120 Volt Power Feeder-Circuit Cables: No. 12 AWG minimum, between building and controllers, to be hard wired. No splicing or plug-in connection allowed.
  - 2. Low-Voltage, Branch-Circuit Cables: Between controllers and automatic control valves, provide 2 (Two - white and blue colored) No. 14 AWG minimum for the ground or common wires (one wire is to serve as a spare) and One (1) 18 AWG minimum 8 multi-strand wire to each valve manifold

location, unless there is a massing of more than 8 valves, then provide 2 - 18 AWG minimum 8 multi-strand wire to the valve manifold location.

3. All splices must be made in either the valve boxes or the pull boxes. NO EXCEPTIONS.
4. Splicing Materials: 3M DBY Splicing Kits.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A. Set stakes to identify proposed lawn sprinkler locations. Obtain Architect's approval before excavation.

#### **3.2 TRENCHING AND BACKFILLING**

- A. For excavating, trenching, and backfilling of trenches; All pipes shall be separated by 12 inches in either the vertical or horizontal direction. All trenches shall be dug a minimum of 14 inches deep and as wide as necessary to accommodate a 12 separation between all pipes. Material within 2 inches of any pipe shall be 1/4 inch minus, either existing material or imported as required.
- B. Install piping and wiring in 4" PVC sleeves under sidewalks, roadways, parking lots.
- C. Drain Pockets: Excavate to sizes indicated. Backfill with cleaned gravel or crushed stone, graded from 1 inch to 3/4 inch minimum, to 12 inches below grade. Cover gravel or crushed stone with sheet of asphalt-saturated felt and backfill remainder with excavated material.
- D. Provide 2 inch minimum cover over top of underground piping.

#### **3.3 TRENCHING AND BACKFILLING - DRIP SYSTEM**

- A. For excavating, trenching, and backfilling of trenches; Refer to details on drawings.
- B. Install piping with manufacturer recommended stakes.

#### **3.4 PIPING APPLICATIONS**

- A. Install components having pressure rating equal to or greater than system operating pressure.
- B. Piping in control-valve boxes and aboveground may be joined with flanges instead of joints indicated.
- C. Underground, Pressure Piping: Use the following:
  1. 3-Inch and Smaller: Schedule 40 PVC pipe with solvent-cemented joints.
- D. Circuit Piping: Use the following:
  1. 2-Inch and Smaller: Schedule 40 PVC pipe, Schedule 40 PVC socket fittings, and solvent-cemented joints.
- E. Underground Branches and Offsets at Sprinklers and Devices: flexible swing joints.

F. SLEEVES: 4" and 8" Schedule 40 PVC pipe, unless otherwise called for on the drawings.

G. CONTROL WIRES (24 volt AC, nominal):

1. Wires connecting the remote control valves to the irrigation controller are single conductors, type **PE**. Its construction incorporates a solid copper conductor and polyethylene (PE) insulation with a minimum thickness of 0.045 inches. The wires shall be UL listed for direct burial in irrigation systems and be rated at a minimum of 30 VAC. Wire sizes and colors are defined in the irrigation plans and other specifications.
2. All control wires shall be taped together in a single bundle and installed directly beneath the mainline throughout the entire length of the control wire run from the farthest valve box to the controller.

### 3.5 VALVE APPLICATION

1. Underground, Shutoff-Duty Valves: Use the following:
2. 2-Inch and Smaller: Curb stop, with tee head, cast-iron curb-stop service box, and shutoff rod.
3. Control Valves: Refer to Irrigation Legend on Drawings.

### 3.6 JOINT CONSTRUCTION

- A. The type of joints for pressure piping is dependent on the pipe sizes as herein specified. All joints must be allowed to set for a minimum of 24 hours prior to pressure testing.
- B. All lateral line PVC joints shall be glued as per manufacturers recommendations, using both the proper primer and glue. All joints must be allowed to set for a minimum of 24 hours prior to pressure testing.
- C. Fittings on flex swing risers shall be barbed insert ells made of THICK-WALLED POLY PIPE as manufactured by Rainbird

### 3.7 PIPING INSTALLATION

- A. Locations and Arrangements: Provide Coordination Drawings.
- B. Install piping at uniform slope of 0.5 percent minimum, down toward drain valves.
- C. Install piping free of sags and bends.
- D. Install groups of pipes parallel to each other with a 12 inch min. separation.
- E. Install fittings for changes in direction and branch connections.
- F. Install unions adjacent to valves and as per the detail on the drawings.
- G. Lay piping on solid subbase, uniformly sloped without humps or depressions.
- H. Install PVC piping in dry weather when temperature is above 40 deg F. Allow joints to cure at least 24 hours

at temperature above 40 deg F before testing, unless otherwise recommended by manufacturer.

**3.8 VALVE INSTALLATION**

- A. Underground Gate Valves: Install in valve box.
- B. Underground Stop and Waste Valves: Install in cast iron curb box.
- C. Electric Remote Control Valves: Install a maximum of 2 valves in valve box
- D. Drain Valves: Install in 2" PVC sleeve with locking lid. Top of lid to be flush with finish grade.

**3.9 SPRINKLER INSTALLATION**

- A. Flush circuit piping with full head of water and install sprinklers after hydrostatic test is completed.
- B. Install lawn sprinklers perpendicular to finish grade.
- C. Install lawn sprinklers adjacent to hard-surfaces at ½ inch below finish grade.
- D. Locate all sprinklers to maintain a minimum distance of 2 inches from all boundaries and hard-surfaces.

**3.10 CONNECTIONS**

- A. Connect piping to valves, sprinklers, and specialties as per manufactures recommendations.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

**3.11 Coordinate all Electric-power to valves, and devices that require power.**

**3.12 FIELD QUALITY CONTROL**

- A. Testing: Hydrostatically test piping and valves before backfilling trenches. Piping may be tested in sections.
  - 1. Cap and test piping with static water pressure of 150 psi.
  - 2. Repair leaks and defects with new materials and retest system or portion thereof until satisfactory results are obtained.

**3.13 CLEANING AND ADJUSTING**

- A. Flush dirt and debris from piping before installing sprinklers and other devices.
- B. Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit.

- C. Carefully adjust lawn sprinklers so they will be not more than ½ inch below finish grade.
- D. Adjust settings of controllers and automatic control valves.

**3.14 COMMISSIONING**

- A. Starting Procedures: Follow manufacturer's written procedures. If no procedures are prescribed by manufacturers, proceed as follows:
  - 1. Verify that specialty valves and their accessories are installed and operate correctly.
  - 2. Verify that specified tests of piping are complete.
  - 3. Verify that sprinklers and devices are correct type.
  - 4. Verify that damaged sprinklers and devices are replaced with new materials.
  - 5. Verify that potable-water supply connections have backflow preventers.
  - 6. Energize circuits to electrical equipment and devices.
  - 7. Adjust operating controls.

**3.15 DEMONSTRATION**

- A. Demonstrate to Landscape Architect and the Owner's maintenance personnel operation of equipment, sprinklers, specialties, and accessories. Review maintenance information.
- B. Provide seven days' advance written notice of demonstration.

**3.16 WINTERIZATION OF THE SYSTEM**

- A. The entire irrigation system is designed to be winterized by attaching an air compressor to the quick coupler and "blow out" the pipes, valves and heads by the use of compressed air. **DO NOT** install automatic drains on the mainlines.
- B. If the system is installed during the fall season and the Certificate of Substantial Completion is not issued, the Contractor shall winterize the entire system and all other water lines that have been charged during the installation or testing period of the system. The system must then be charged in the springtime of the next year and inspected for any deficiencies. All repairs must be made by the contractor at no expense to the owner.

**3.17 CLOSEOUT**

- A. RECORD DRAWINGS -
  - 1. As installation occurs, prepare accurate record drawing to be submitted before final inspection, including -
    - a. Detail and dimension changes made during construction.

- b. Significant details and dimensions not shown in original Contract Documents.
- c. Field dimensioned locations of valve boxes, manual drains, quick-coupler valves, control wire runs not in mainline ditch, and both ends of sleeves.
- d. Take dimensions from permanent constructed surfaces or edges located at or above finish grade.
- e. Take and record dimensions at time of installation.
- f. Reduce copy of record drawing to half-size, color key circuits, and laminate both sides with 5 mil thick or heavier plastic. Install inside the controller cabinet.

**B. OPERATIONS AND MAINTENANCE MANUAL DATA**

- a. Provide INSTRUCTION MANUAL which lists complete instructions for system operation and maintenance, including winterizing.

END OF SECTION 02813

**SECTION 02900 - LANDSCAPING**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes the following:

- 1. Shrubs
- 2. Sod
- 3. Topsoil
- 4. Soil amendments
- 5. Fertilizers
- 6. 1" diameter gravel mulch
- 7. 6" - 12" cobble rocks
- 8. Weed Barrier
- 9. Landscape Rocks (Large)

- B. RELATED WORK: The following requirements pertain to the protection of existing trees.

- 1. All existing trees remaining on site during the construction period shall be treated as follows:
- 2. Provide a watering basin at the base of each tree that is 10 feet in diameter and 12" deep. Use existing subgrade material to construct the watering basin. Water each tree weekly by completely filling the watering basin. Insure that the earth basin is not breeched and that the water is allowed to percolate naturally.
- 3. Construct a temporary chain-link fence around each tree that encompasses the water basin and is approximately 10 feet long on each of the 4 sides of the fence.
- 4. Do not store material within the watering basin area.
- 5. Do not damage the branches or trunk in any way.
- 6. Do not prune the tree, unless permission is obtained from the Landscape Architect.
- 7. Each existing tree has in inherent value of \$5000.00. At the conclusion of the project, all existing trees will be inspected for damage and vitality. Any tree that is compromised in any way at this time will be analyzed and a fine will be determined or a replacement cost for the full amount will be assessed against the General Contractor.
- 8. Recommend protecting against soil compaction, contamination and grade change.

C. EXISTING LAWN CONDITIONS

1. The existing lawn on the site shall be maintained by cutting and capping the existing irrigation system and installing a new irrigation system as called for on the drawings.
2. The cutting and capping of the existing irrigation system shall be completed at the beginning of the new construction.
3. The new irrigation system shall be installed at the BEGINNING OF THE WORK in order to provide water for the preservation of the lawn during the construction period.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product certificates signed by manufacturers certifying that their products comply with specified requirements.
  1. Manufacturer's certified analysis for standard products.
  2. Analysis for other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
  3. Label data substantiating that plants, trees, shrubs, and planting materials comply with specified requirements.
  4. Certification of identifying source, including name and telephone number of supplier.
- C. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses.
- D. Material test reports from qualified independent testing agency indicating and interpreting test results relative to compliance of the following materials with requirements indicated.
  1. Analysis of imported topsoil.
- E. Maintenance instructions recommending procedures to be established by Owner for maintenance of landscaping during an entire year. Submit before expiration of required maintenance periods.
- F. Landscape Rocks
  1. Large Rock - 4' to 6' diameter: Provide a picture of the rock to be used. Landscape Architect must approve the rock prior to delivery on site.
  2. 1" diameter gravel mulch: Provide a picture of the rock to be used. Landscape Architect must approve the rock prior to delivery on site.
  3. 6" - 12" diameter cobble rock: Provide a picture of the rock to be used. Landscape Architect must approve the rock prior to delivery on site.
- G. BRUIN SCULPTURE
  1. Provide a hand carved sculpture of the size and shape as called for in the details on the drawings.
  2. Type of rock shall be as described in the details on the drawings.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishment.
  - 1. Installer's Field Supervision: Installer to maintain an experienced full-time supervisor on the Project site during times that landscaping is in progress.
- B. Provide quality, size, genus, species, and variety of trees and shrubs indicated, complying with applicable requirements of ANSI Z60.1 "American Standard for Nursery Stock."
- C. Topsoil Analysis: Furnish a soil analysis for all sources of topsoil on the site, including any topsoils that are to be imported onto the site. This test is to be performed by a qualified independent soil-testing agency licenced in the State of Utah. This test must state the percentages of organic matter, inorganic matter (silt, clay, and sand), deleterious material, pH, and mineral and plant-nutrient content of all sources of topsoil sampled.

SOIL NAME	pH	Soluble Salts mmhos/cm	SAR (sodium absorb. ratio)	% Organic Matter	% Sand	% Silt	% Clay	Texture Class
SOIL AMENDMENTS	≤8.0	≤4.0	NA	NA	NA	NA	NA	NA
TOPSOIL	5.5 To 8.0	≤2.0	≤3.0	≥3.0	≤70	-	≤30	Sandy Loam; Loam; Sandy clay loam; Silt loam.

- 1. Report suitability of topsoil for growth of applicable planting material. State recommended quantities of nitrogen, phosphorus, and potash nutrients and any limestone, aluminum sulfate, or other soil amendments to be added to produce a satisfactory topsoil.
- D. Measurements for tree caliper: Measure trees and shrubs according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 12 inches above root flare for all sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. PACKAGED MATERIALS: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.
- B. SOD: Deliver on site only the amount that can be laid within 24 hours..
- C. SHRUBS:
  - 1. Do not prune before delivery, except as approved by Architect.

4. Do not drop shrubs during delivery.
  5. Handle stock by the containers.
- D. DELIVER shrubs after preparations for planting have been completed and install immediately. If planting is delayed more than 24 hours after delivery, all unplanted plants will be rejected, removed from the site and replaced with new stock. There will be no storage of plant material on site. NO EXCEPTIONS.
- E. GRO-POWER STORAGE
1. Mycorrhizal inoculum is living material and must be protected from extreme temperature. Avoid storage temperatures above 90° F or below 32° F. Keep it in a cool dry, well aerated location. Avoid exposure to direct sunlight for more than 2 hours.
  2. SHELF LIFE: For maximum effectiveness, use the contents of product within 12 month from date of purchase.

#### 1.6 PROJECT CONDITIONS

- A. Utilities: Determine location of above grade and underground utilities and perform work in a manner which will avoid damage. Hand excavate, as required. Maintain grade stakes until removal is mutually agreed upon by parties concerned.
- B. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Architect before planting.

#### 1.7 COORDINATION AND SCHEDULING

- A. Coordinate installation of planting materials during normal planting seasons for each type of plant material required.

#### 1.8 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: Warrant the following living planting materials for a period of one year after date of Substantial Completion, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, abnormal weather conditions unusual for warranty period, or incidents that are beyond Contractor's control.
  1. Shrubs
  2. Sod
- C. Remove and replace dead planting materials immediately unless required to plant in the succeeding planting season.
- D. Replace planting materials that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
- E. A limit of one replacement of each plant material will be required, except for losses or replacements due to failure to comply with requirements.

1.9 SHRUB MAINTENANCE

- A. Maintain shrubs by cultivating, watering, weeding, fertilizing, restoring planting saucers, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray as required to keep shrubs free of insects and disease. Maintain shrubs for the following period:

1. Maintenance Period: 12 months following Substantial Completion.

1.10 PERENNIALS AND PLANT MAINTENANCE

- A. Maintain perennials and plants by watering, weeding, fertilizing, and other operations as required to establish healthy, viable plantings for the following period:

1. Maintenance Period: 12 months following Substantial Completion.

1.11 SOD MAINTENANCE

A. ROLLING:

1. All sodded areas must be rolled.
2. Roller to be used shall be a water filled, smooth cylinder that when filled with a liquid must not weigh more than 300 pounds.
3. Water content of soil must be adjusted such that rolling actually makes an impression in the sodded areas without causing ruts or depressions.
4. Sodded areas must be rolled in two direction @ perpendicular angles.

B. MOWING:

1. Cut grass first time when it reaches a height of 4 ½" and maintain to minimum height of 3". Do not cut more than 1/3 of blade at any one mowing. Remove clippings. After first mowing, water to moisten soil from 3 inches to 5 inches deep. Allow a minimum of 5 days between mowings. **Contractor shall mow the lawn until the end of the Date of Substantial Completion. The number of mowings to be provided by the contractor shall be determined by the growth pattern of the lawn. There shall be no minimum number of mowings set forth, only that the health and vitality of the lawn shall be maintained. At not time shall the height of the lawn exceed 4 ½".**

C. FERTILIZING:

1. 1.Fertilize all sodded areas 3 times @ 6 week intervals with the fertilizer herein specified. Notify the owner 72 hours in advance of each application. **Three applications of fertilizer** at the rate of 5 pounds per 1000 square feet is required prior to acceptance of the sodded areas.

- D. Maintain and establish lawns by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Regrade, and re-sod all bare, eroded or dead sod areas to produce a uniformly smooth lawn.

- E. Watering: Provide and maintain lawn-watering equipment to convey water from the sources and to keep lawns uniformly moist. In the eventuality that the irrigation system is inoperable or that water in the irrigation system is not available, the contractor must apply water by whatever means necessary to establish the sod.

- F. Mow lawns as soon as there is enough top growth to cut with mower set at 3" high. Repeat mowing as required to maintain specified height without cutting more than 40 percent of the grass height. Remove no more than 33 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass

blades bend over and become matted. Do not mow when grass is wet.

- G. Apply weed killer as necessary to maintain weed-free lawn. Apply weed killer in accordance with manufacturer's instructions during calm weather when air temperature is between 50 and 80 deg

## **PART 2 - PRODUCTS**

### **2.1 SHRUB MATERIAL**

- A. General: Furnish nursery-grown shrubs as herein specified,, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully-branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
- B. Grade: Provide shrubs of sizes and grades as herein specified, for type of trees and shrubs required. Shrubs of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
- C. FERTILIZER
  - 1. Commercial fertilizer shall be a mixed commercial fertilizer, O-F-241C, type 1, grade 16-16-8, level B with guaranteed chemical analysis of contents marked on the containers. Apply at a rate of 6 pounds per 1000 square feet.

### **2.2 DECIDUOUS SHRUBS**

- A. Form and Size: Deciduous shrubs with not less than the minimum number of canes required by and measured according to ANSI Z60.1 for type, shape, and height of shrub.

### **2.3 TOPSOIL**

- A. Topsoil: Prepare the existing soil material by roto-tilling twice in opposite directions with specified soil amendment at the rates specified herein.
  - 1. Lawn areas to receive 4 inch layer of topsoil.
  - 2. Shrub and Perennials areas to receive a 12 inch layer of topsoil, plus a 3 inch layer of bark mulch.
  - 3. Seeded areas to receive a 2 inch layer of topsoil.

### **2.4 SOIL AMENDMENTS**

- A. GRO-POWER 5-3-1:
  - 1. Organic materials consisting of higher plant life, composted beyond the fibrous stage, to humus (minimum 65%). Also shall have humic acids (minimum 25%) and beneficial soil bacteria strains. It shall NOT contain poultry, animal or human waste (i.e., sewage sludge), pathogenic viruses, fly larvae, insecticides, herbicides, fungicide or poisonous chemicals that would inhibit plant growth.

2. PHYSICAL PROPERTIES: A uniform "Beaded" homogenous mixture - 100.00% passing through a #4 mesh screen - a water soluble bio-degradable binder is used to insure fast breakdown.
3. CHEMICAL ANALYSIS: 5-3-1, Nitrogen (available) 5.00%, Phosphate 3.00%, Potash 1.00%,
4. GUARANTEED ANALYSIS:

Total Nitrogen (N)	5.00%
1.00% Ammoniacal Nitrogen	4.00% Urea Nitrogen
Humus	70.00%,
Humic Acids	15.00%.
Gro-Power bacterial "stimulator"	Included.
Available Phosphoric Acid (P2O5)	3.00%
Soluble Potash (K2O)	1.00%
Iron (Fe)	1.00%
Manganese(Mn)	0.05%
Zinc (Zn)	0.05%

Derived from ammonium phosphate, urea, sulphate of potash, compost and sulfides and oxides of iron, manganese and zinc.
5. ALSO CONTAINS NON-PLANT FOOD INGREDIENT:

Humic Acids (derived from compost)	15.00%
Bacteria (aerobic, anaerobic) Yeast & Mold (Min)	60,000 per 100 gram

## 2.5 MULCHES

- A. Gravel Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of the following:
  1. Type: 1" diameter gravel, color as per detail on drawings.
  2. Type: 6" - 12" diameter cobble rocks, color as per detail on drawings.

## 2.6 WEED BARRIER

- A. Acceptable Manufacturers:
  1. De-Whitt PRO-5 Weed Barrier
  2. Equal as approved by Architect before bidding.

## 2.7 LANDSCAPE ROCKS (LARGE)

- A. Refer to drawings for size of landscape rocks to be furnished
- B. Provide Landscape Architect with a photograph and location of landscape rocks to be used, prior to delivery on site.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to receive landscaping for compliance with requirements and for conditions affecting performance of work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, and secure Architect's acceptance before the start of planting work. Make minor adjustments as may be required.

### 3.3 PLANTING SOIL PREPARATION

- A. Clean existing soil material of roots, plants, sods, stones and other extraneous materials harmful to plant growth prior to roto-tilling.
  - 1. Apply Gro-Power at the rate of 175 lbs. per 1000 sq. ft of area.
  - 2. Thoroughly roto-till amendments into existing soil material to a minimum depth of 6 inches. Roto-till two directions.
  - 3. Landscape Architect must approve roto-tilling of existing soil material prior to fine grading.
- B. PREPARATION OF FINISH GRADE
  - 1. Inspect finish grade for any deleterious material larger than 1/2" in diameter. Bring to the attention of the Landscape Architect any deficiencies in the subgrade including low spots, unevenness, and poor drainage areas due to improper grading or leveling. Finish grade shall be 1-1/2" below any hard surface. NO EXCEPTIONS.
  - 2. After landscape areas have been prepared, take no heavy objects over them except lawn rollers. Immediately before planting lawn and with top soil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs according to soil type. Rake or scarify and cut or fill irregularities that develop as required until area is true and uniform, free from lumps, depressions, and irregularities.

### 3.4 EXCAVATION FOR SHRUBS

- 1. Container-Grown Shrubs: Refer to detail on drawings.
- B. Dispose of subsoil removed from landscape excavations. Do not mix with planting soil or use as backfill.
- C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
- D. Fill excavations with water and allow to percolate out, before placing setting layer and positioning trees and shrubs.

### 3.5 PLANTING SHRUBS

- A. Set container stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades

as indicated.

- B. Set container-grown stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades as indicated.
  - 1. Carefully remove containers so as not to damage root balls.
  - 2. Place stock on setting layer of compacted planting soil.
  - 3. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately 1/2 backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of backfill.
- C. Dish and tamp top of backfill to form a 3-inch- (75-mm-) high mound around the rim of the pit. Do not cover top of root ball with backfill.

### 3.6 LANDSCAPE ROCK (LARGE)

- A. Refer to drawings for the size of large landscape rocks to be placed on site.
- B. Each rock shall be placed and buried approximately 1/3 of the diameter of the rock.
- C. Placement of the large landscape rocks shall be random and as approved by the Landscape Architect.

### 3.7 MULCHING

- A. Mulch backfilled surfaces of pits, trenches, planted areas, and other areas with a 3" layer of mulch.

### 3.8 CLEANUP AND PROTECTION

- A. During landscaping, keep pavements clean and work area in an orderly condition.
- B. Protect landscaping from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

### 3.9 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.

END OF SECTION 02900

**SECTION 09310 - CERAMIC TILE**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. Section Includes:

- 1. Ceramic tile.

- B. Related Sections:

- 1. Division 7 Section "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.

**1.3 DEFINITIONS**

- A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.
- B. ANSI A108 Series: ANSI A108.01, ANSI A108.02, ANSI A108.1A, ANSI A108.1B, ANSI A108.1C, ANSI A108.4, ANSI A108.5, ANSI A108.6, ANSI A108.8, ANSI A108.9, ANSI A108.10, ANSI A108.11, ANSI A108.12, ANSI A108.13, ANSI A108.14, ANSI A108.15, ANSI A108.16, and ANSI A108.17, which are contained in "American National Standard Specifications for Installation of Ceramic Tile."
- C. Module Size: Actual tile size plus joint width indicated.
- D. Face Size: Actual tile size, excluding spacer lugs.

**1.4 PERFORMANCE REQUIREMENTS**

- A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:

- 1. Level Surfaces: Minimum.

## 1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.
- C. Samples for Initial Selection: For each type of tile and grout indicated. Include Samples of accessories involving color selection.
- D. Samples for Verification:
  - 1. Full-size units of each type and composition of tile and for each color and finish required.
  - 2. Assembled samples mounted on a rigid panel, with grouted joints, for each type and composition of tile and for each color and finish required. Make samples at least **12 inches (300 mm)** square, but not fewer than 4 tiles. Use grout of type and in color or colors approved for completed Work.
  - 3. Full-size units of each type of trim and accessory.
  - 4. Metal edge strips in **6-inch (150-mm)** lengths.
- E. Qualification Data: For qualified Installer.
- F. Master Grade Certificates: For each shipment, type, and composition of tile, signed by tile manufacturer and Installer.
- G. Product Certificates: For each type of product, signed by product manufacturer.
- H. Material Test Reports: For each tile-setting and -grouting product.

## 1.6 QUALITY ASSURANCE

- A. Source Limitations for Tile: Obtain tile from one source or producer.
  - 1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.

- B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from one manufacturer and each aggregate from one source or producer.
- C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer for each product:
  - 1. Crack isolation membrane.
  - 2. Joint sealants.
  - 3. Metal edge strips.
- D. Preinstallation Conference: Conduct conference at S.L.C.C. Student Center.
  - 1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.
- D. Store liquid materials in unopened containers and protected from freezing.
- E. Handle tile that has temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

#### 1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

#### 1.9 EXTRA MATERIALS

- A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.
  - 2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
  - 1. Provide tile complying with Standard grade requirements unless otherwise indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCA installation methods specified in tile installation schedules, and other requirements specified.
- C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples..
- D. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

### 2.2 TILE PRODUCTS

- A. Tile Type: Unglazed paver tile.
  - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Interceramic: Series Colorlands or comparable product by one of the following:

- a. American Marazzi Tile, Inc.
  - b. American Olean; Division of Dal-Tile International Inc.
  - c. Crossville, Inc.
  - d. Daltile; Division of Dal-Tile International Inc.
  - e. Deutsche Steinzeug America, Inc.
  - f. Florida Tile Industries, Inc.
  - g. Florim USA.
  - h. GranitiFiandre; c/o Trans Ceramica, Ltd.
  - i. Interceramic.
  - j. Laufen.
  - k. Lone Star Ceramics Company.
  - l. Grupo Porcelanite.
  - m. Portobello America, Inc.
  - n. Seneca Tiles, Inc.
  - o. United States Ceramic Tile Company.
2. Composition: Porcelain.
  3. Face Size: **6 by 12 inches (152 by 304 mm) and 12 by 12 inches (304 by 304 mm).**
  4. Thickness: [**1/4 inch (6.35 mm)**] [**3/8 inch (9.5 mm)**] [**1/2 inch (12.7 mm)**].
  5. Face: Pattern of design indicated, with cushion edges.
  6. Finish: Mat, opaque glaze.
  7. Tile Color and Pattern: As selected by Architect from manufacturer's full range.
  8. Grout Color: As selected by Architect from manufacturer's full range.

## 2.3 SETTING MATERIALS

### A. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide comparable product by one of the following:
  - a. Boiardi Products; a QEP company.
  - b. Bonsal American; an Oldcastle company.
  - c. Bostik, Inc.
  - d. C-Cure.
  - e. Custom Building Products.
  - f. Jamo Inc.
  - g. Laticrete International, Inc.
  - h. MAPEI Corporation.
  - i. Mer-Kote Products, Inc.
  - j. Southern Grouts & Mortars, Inc.
  - k. Summitville Tiles, Inc.

1. TEC; a subsidiary of H. B. Fuller Company.
3. Provide prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.
4. Provide prepackaged, dry-mortar mix combined with acrylic resin liquid-latex additive at Project site.
5. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.4.

## 2.4 GROUT MATERIALS

- A. Sand-Portland Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce color indicated.
- B. Standard Cement Grout: ANSI A118.6.
  1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Boiardi Products; a QEP company.
    - b. Bonsal American; an Oldcastle company.
    - c. Bostik, Inc.
    - d. C-Cure.
    - e. Custom Building Products.
    - f. Jamo Inc.
    - g. Laticrete International, Inc.
    - h. MAPEI Corporation.
    - i. Southern Grouts & Mortars, Inc.
    - j. Summitville Tiles, Inc.
    - k. TEC; a subsidiary of H. B. Fuller Company.

## 2.5 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.
- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

**2.6 CRACK ISOLATION MEMBRANE**

- A. General: Manufacturer's standard product that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
  - 1. Verify that substrates for setting tile are firm, dry, clean, free of coatings that are incompatible with tile-setting materials including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
  - 2. Verify that concrete substrates for tile floors installed with thin-set mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
    - a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
    - b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
  - 3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
  - 4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

**3.2 PREPARATION**

- A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

- B. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped **1/4 inch per foot (1:50)** toward drains.
- C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.
- D. Field-Applied Temporary Protective Coating: If indicated under tile type or needed to prevent grout from staining or adhering to exposed tile surfaces, precoat them with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.

### 3.3 TILE INSTALLATION

- A. Comply with TCA's "Handbook for Ceramic Tile Installation" for TCA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
  - 1. For the following installations, follow procedures in the ANSI A108 Series of tile installation standards for providing 95 percent mortar coverage:
    - a. Exterior tile floors.
    - b. Tile floors in wet areas.
    - c. Tile swimming pool decks.
    - d. Tile floors in laundries.
    - e. Tile floors composed of tiles **8 by 8 inches (200 by 200 mm)** or larger.
    - f. Tile floors composed of rib-backed tiles.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- D. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work

to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
  2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
  3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.
- E. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:
1. Paver Tile: [**1/4 inch (6.35 mm)**] [**3/8 inch (9.5 mm)**].
- F. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.
- G. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.
  2. Prepare joints and apply sealants to comply with requirements in Division 7 Section "Joint Sealants."
- H. Metal Edge Strips: Install where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with or below top of tile and no threshold is indicated.
- I. Grout Sealer: Apply grout sealer to cementitious grout joints in tile floors according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

### 3.4 CRACK ISOLATION MEMBRANE INSTALLATION

- A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness and bonded securely to substrate.
- B. Do not install tile or setting materials over crack isolation membrane until membrane has cured.

**3.5 CLEANING AND PROTECTING**

- A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
  - 1. Remove grout residue from tile as soon as possible.
  - 2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.
  - 3. Remove temporary protective coating by method recommended by coating manufacturer and that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent drain clogging.
- B. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.
- C. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- D. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

**3.6 INTERIOR TILE INSTALLATION SCHEDULE**

- A. Interior Floor Installations, Concrete Subfloor:
  - 1. Tile Installation F113: Thin-set mortar; TCA F113.
    - a. Tile Type: 12x12.
    - b. Thin-Set Mortar: Latex-portland cement mortar.
    - c. Grout: Any type specified in ANSI A118.6 or A118.7.
- B. Interior Wall Installations, Masonry or Concrete:
  - 1. Tile Installation W202: Thin-set mortar; TCA W202.
    - a. Tile Type: 6x12.
    - b. Thin-Set Mortar: Latex-portland cement mortar.
    - c. Grout: Any type specified in ANSI A118.6 or A118.7.

END OF SECTION 09310

## SECTION 10350 - FLAGPOLES

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A. Aluminum Flagpoles.

#### 1.2 REFERENCES

- A. ASTM A 123/A 123M – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2002.
- B. ASTM B 221 – Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2006.
- C. ASTM B 221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2006.

#### 1.3 PERFORMANCE REQUIREMENTS

- A. Flagpole With Flag Flying: Resistant without permanent deformation to 100 miles/hr wind velocity; nonsafety design factor of 2.5.

#### 1.4 SUBMITTALS

- A. See Section 01300 – Administrative Requirements, for submittal procedures.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Flagpoles:
  - 1. American Flagpole; Product\_\_\_\_: [www.americanflagpole.com](http://www.americanflagpole.com).
  - 2. Concord Industries, Inc; Product\_\_\_\_: [www.flagpoles.com](http://www.flagpoles.com).
  - 3. Pole-Tech Co.,Inc; Product\_\_\_\_: [www.polettech.com](http://www.polettech.com).
  - 4. Substitutions: See Section 01600 – Product Requirements.

#### 2.2 FLAGPOLES

- A. Flagpoles: Aluminum.
  - 1. Nominal Height: 2 @ 20'-0" and 1 @ 25'-0"ft; measured from nominal ground elevation.
  - 2. Mounting: Ground mounted type.

3. Halyard: Interior type.

## 2.3 POLE MATERIALS

- A. Aluminum: ASTM B221 (ASTM B 221M), 6063 alloy, T6 temper.

## 2.4 ACCESSORIES

- A. Finial Ball: Stainless steel, 6 inch diameter.
- B. Truck Assembly: Cast aluminum; revolving, stainless steel ball bearings, non-fouling.

## 2.5 FINISHING

- A. Metal Surfaces in Contact With Concrete: Asphaltic paint.
- B. Concealed Steel Surfaces: Galvanized to ASTM A 123/A 123M requirements.
- C. Exposed to View Steel Surfaces: Galvanized to ASTM A 123/A 123M requirements.
- D. Aluminum: Mill Finish.
- E. Finial: Spun finish.

# PART 3 - EXECUTION

## 3.1 INSTALLATION

- A. Install flagpole, base assembly, and fittings in accordance with manufacturer's instructions.

## 3.2 ERECTION TOLERANCES

- A. Maximum Variation From Plumb: 1 inch.

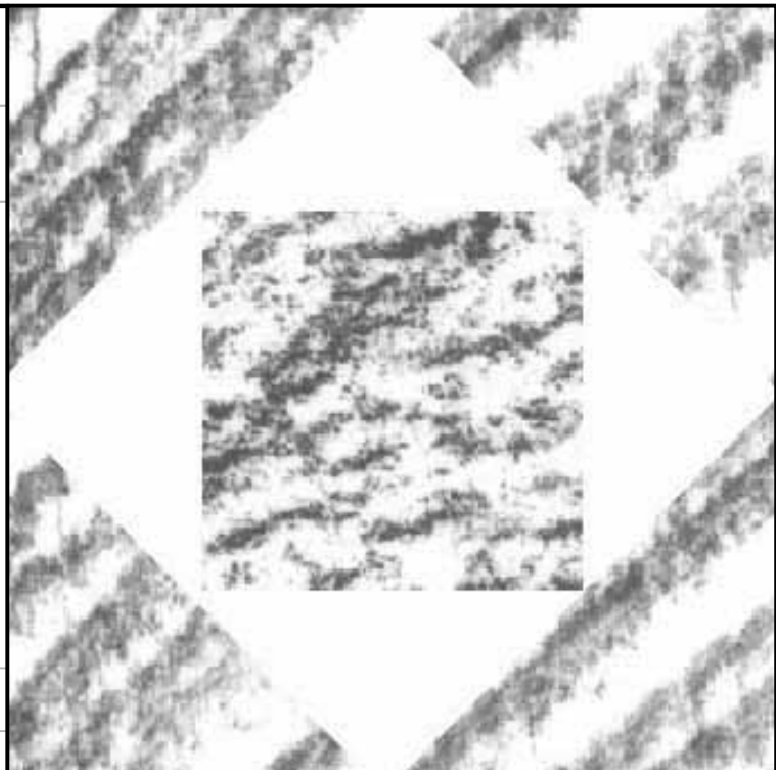
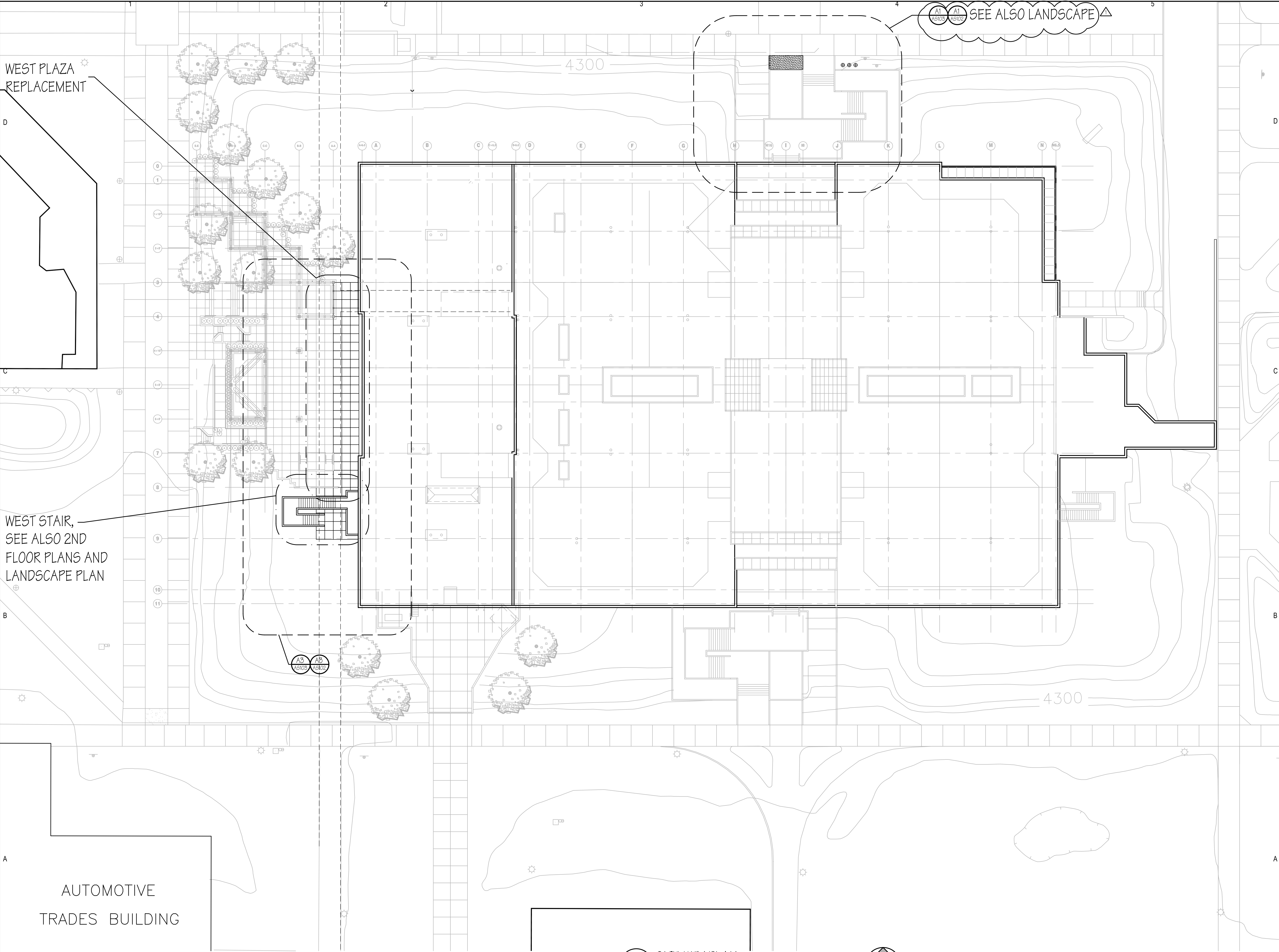
## 3.3 ADJUSTING

- A. Adjust operating devices so that halyard and flag function smoothly.

## 3.4 SCHEDULES

- A. Front Yard Pole: One 40 feet (12.2 m), with U.S. flag.

END OF SECTION 10350



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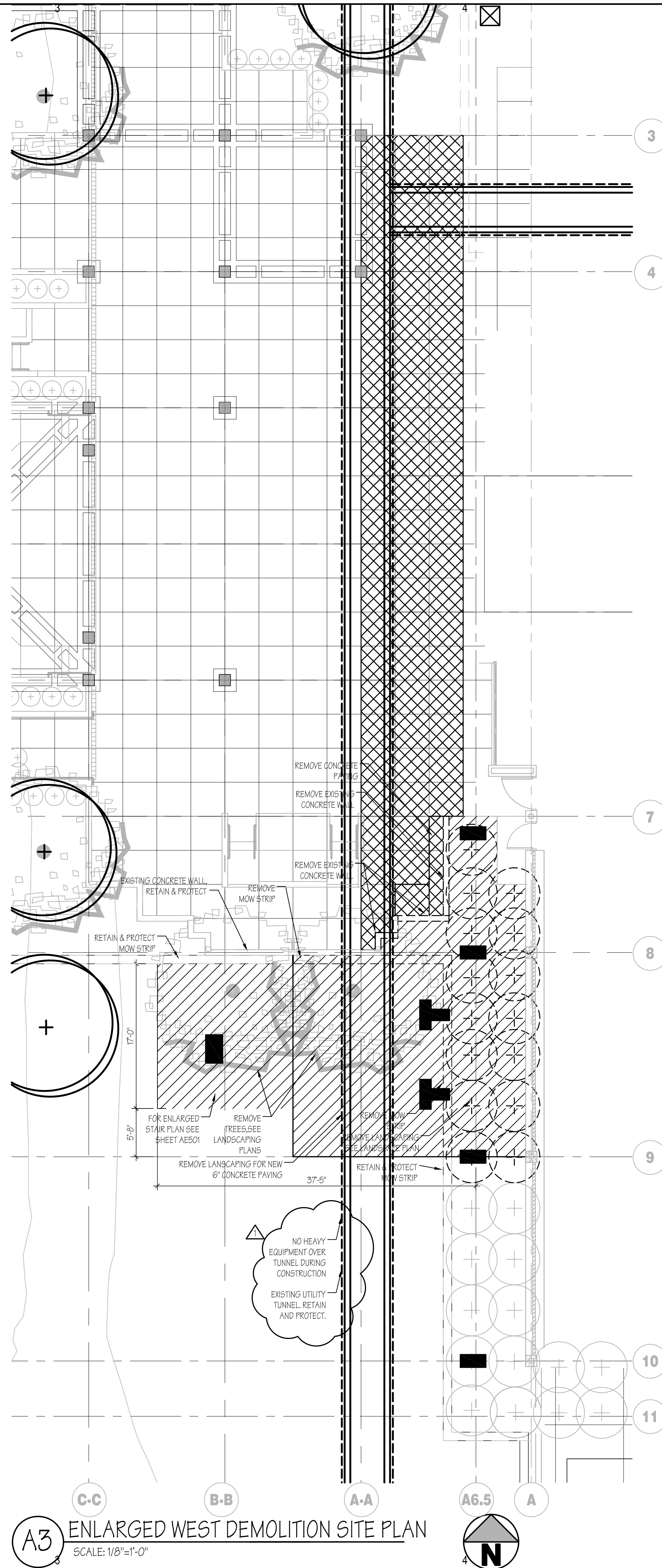
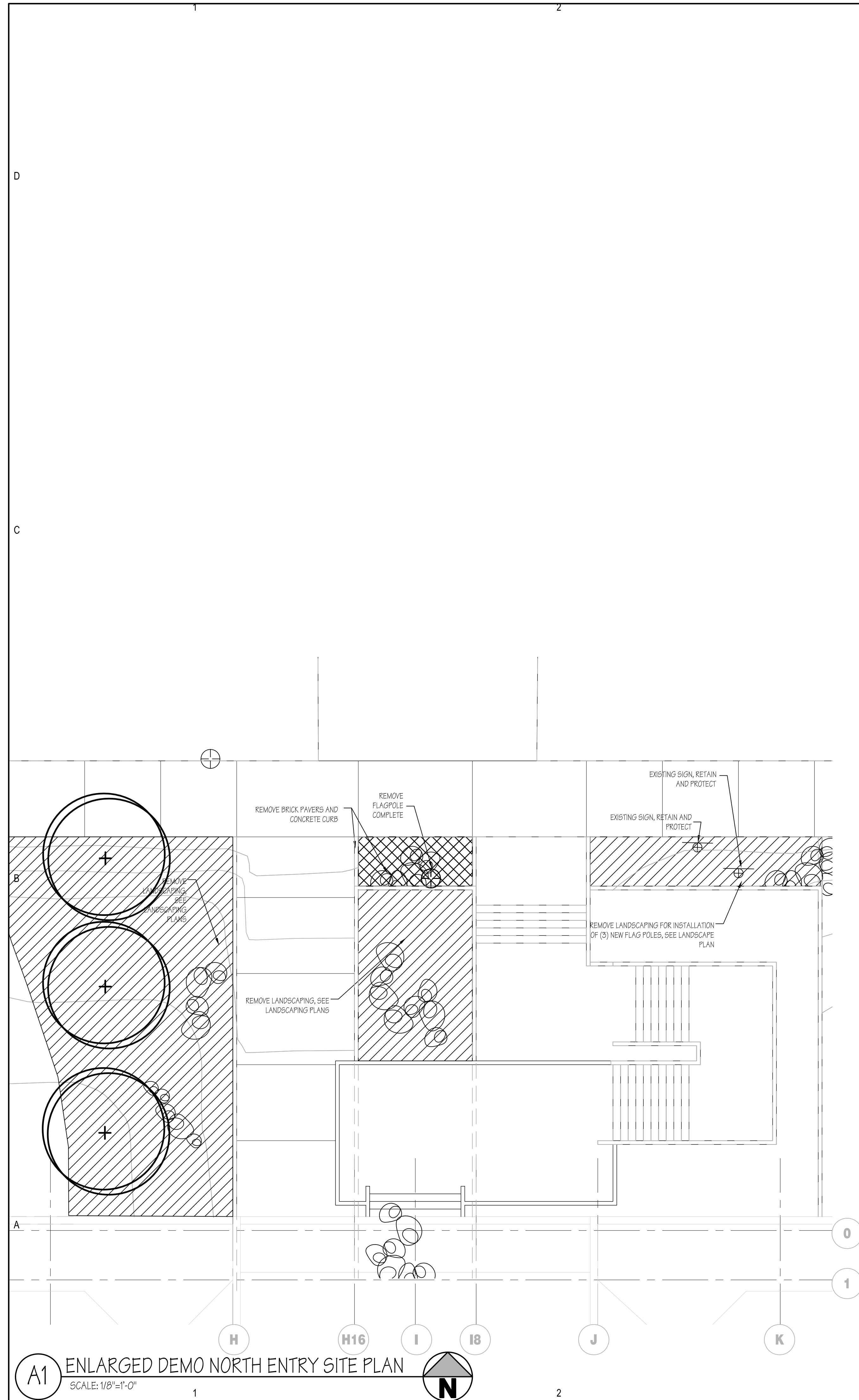
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HFSA PROJECT NO: 0762.01  
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DESIGNED BY: BS  
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ARCHITECTURAL PHASE:  
CONSTRUCTION DOCUMENTS

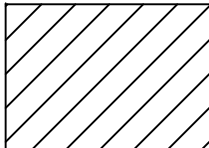
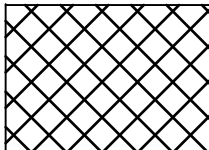
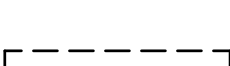
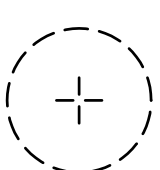
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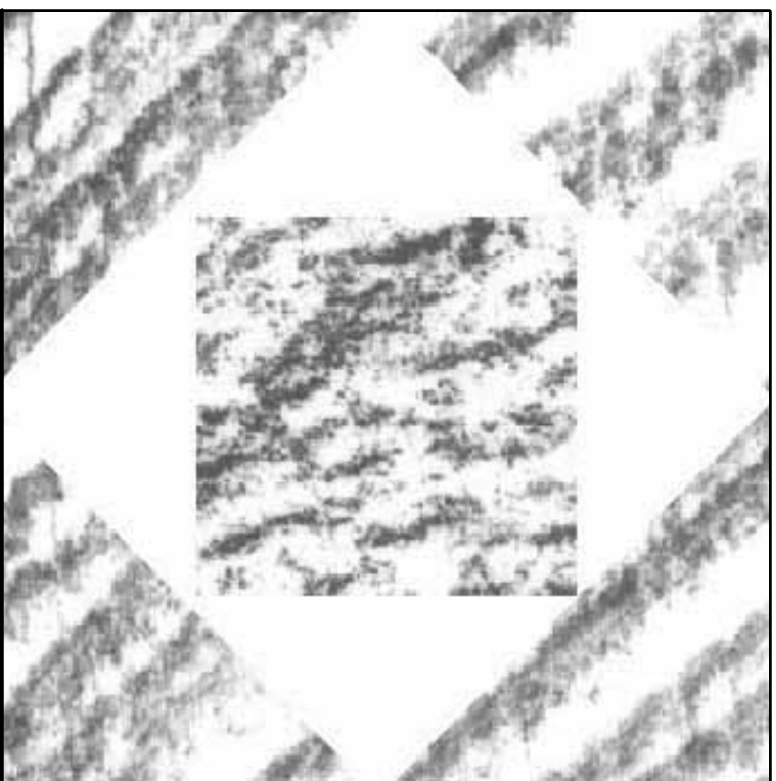
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**AS101**  
SHEET 2 OF



DEMOLITION SITE LEGEND

	A. REMOVE LANDSCAPING COMPLETE.
	B. REMOVE CONCRETE PAVING COMPLETE.
	C. REMOVE CONCRETE WALL COMPLETE.
	D. REMOVE SHRUBS COMPLETE, SEE LANDSCAPE PLAN



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CONSTRUCTION DOCUMENTS	

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ENLARGED DEMO SITE PLAN

AS102  
SHEET 3 OF



SHEET 4 OF 4

E. PATCH AND REPAIR ANY DAMAGE TO ANY SURFACE, EQUIPMENT ETC NOT IN THIS SCOPE OF WORK.

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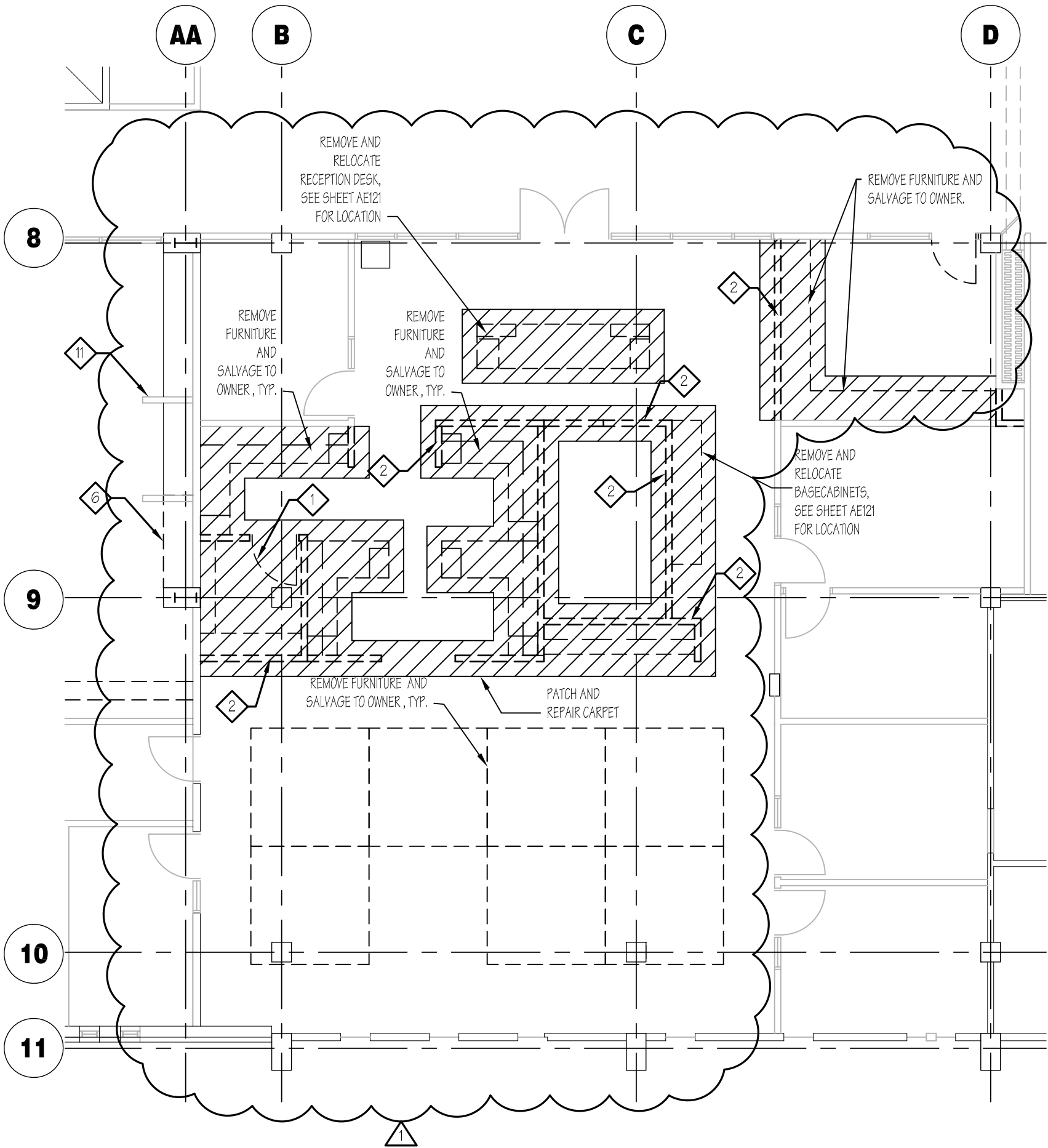
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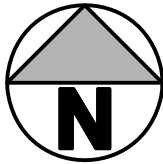
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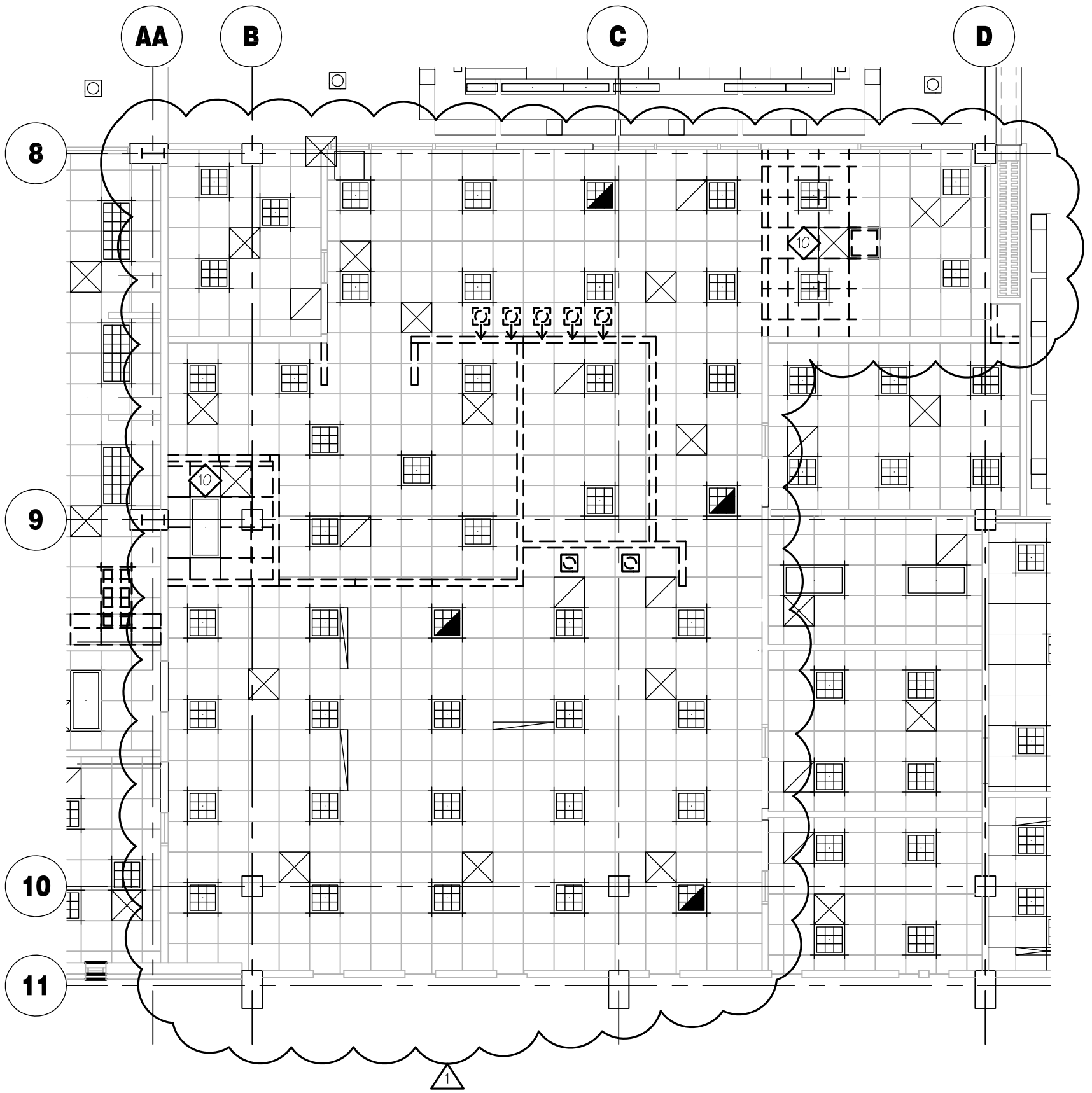
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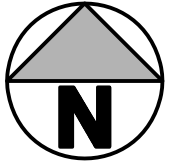


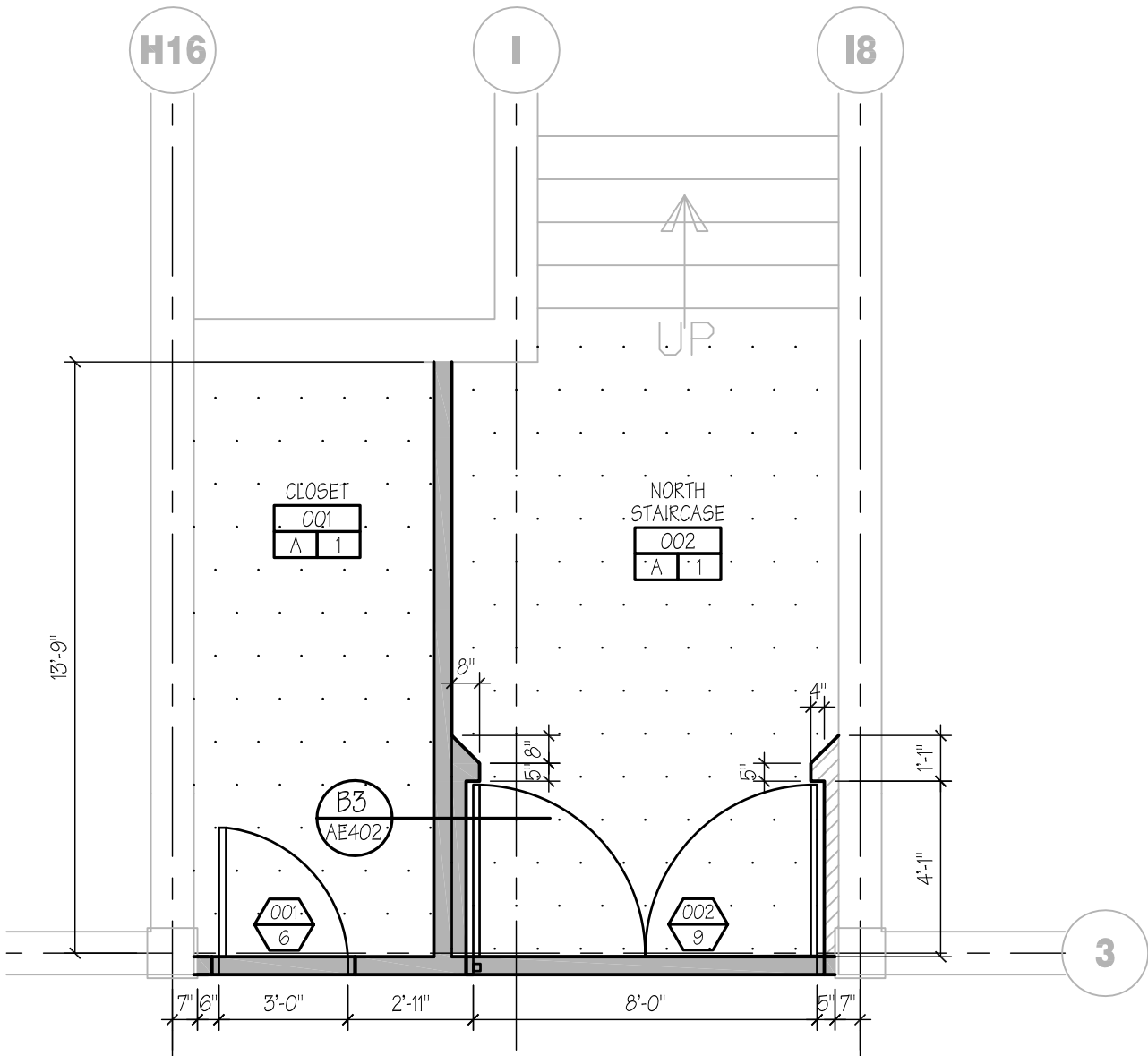
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**A3** DEMO ENLARGED SECOND REFLECTED CEILING PLAN  
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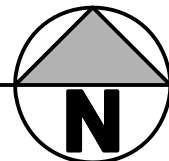




A1

# NORTH BASEMENT PLAN

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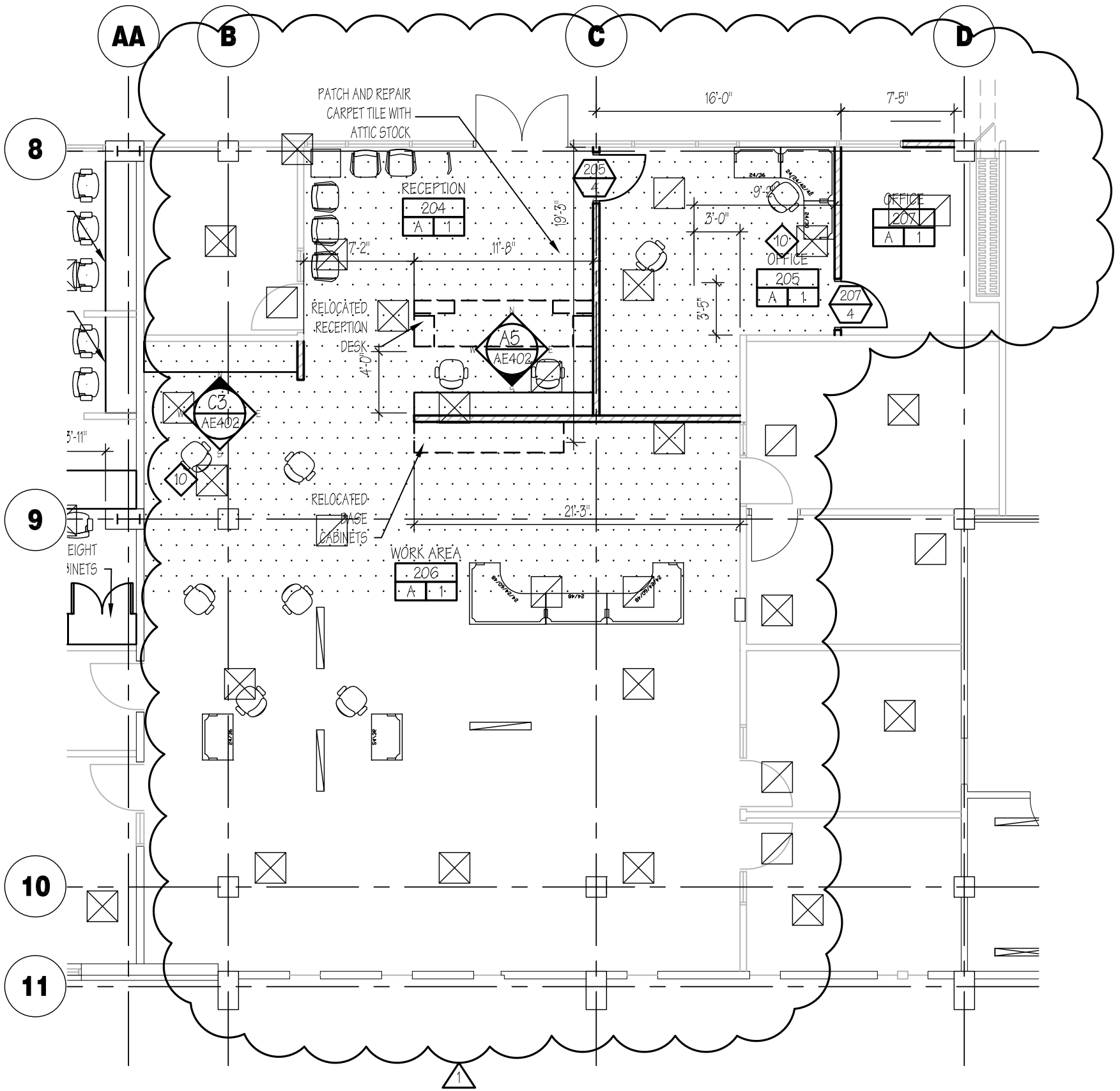


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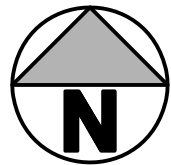
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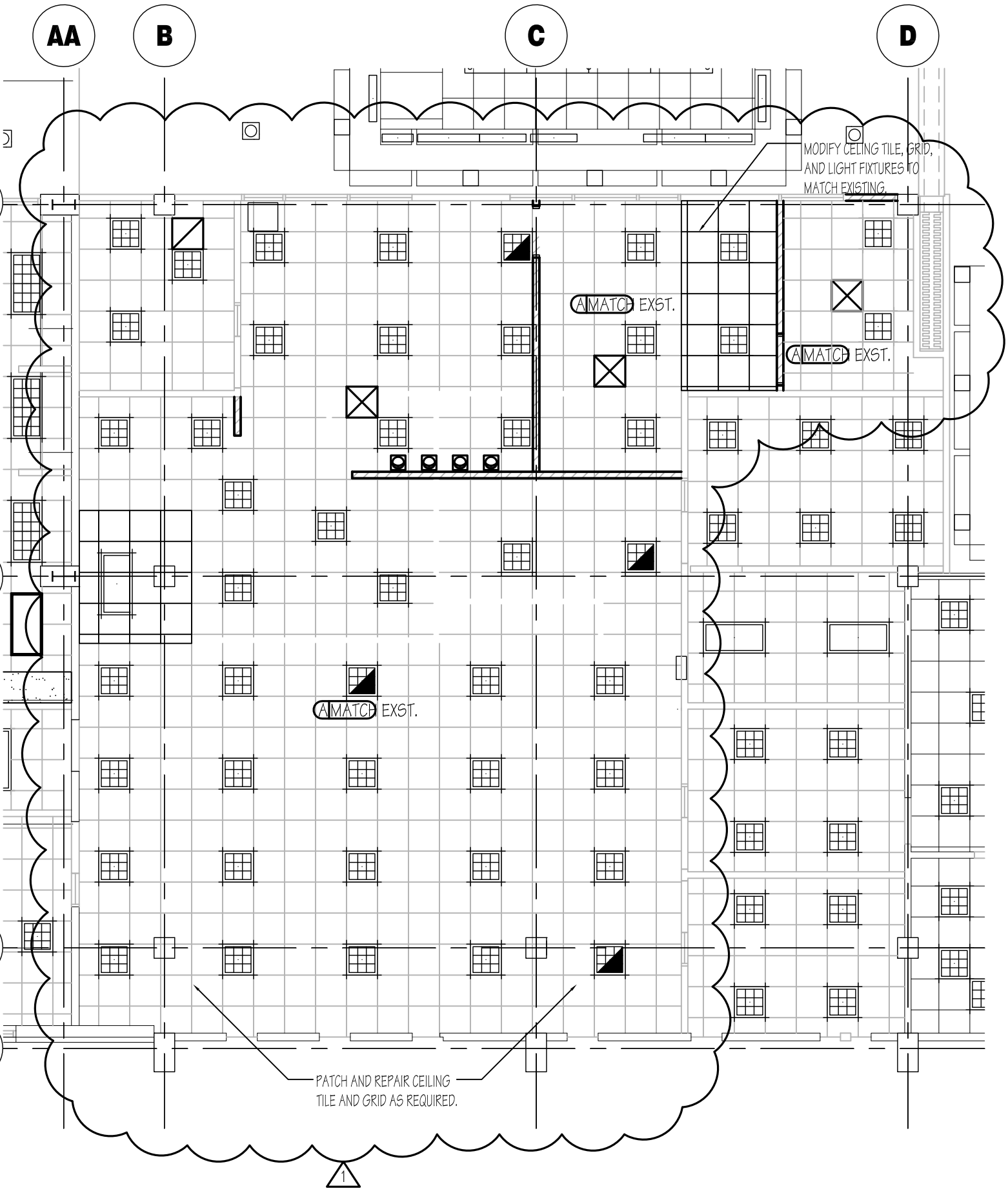
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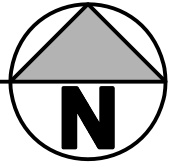


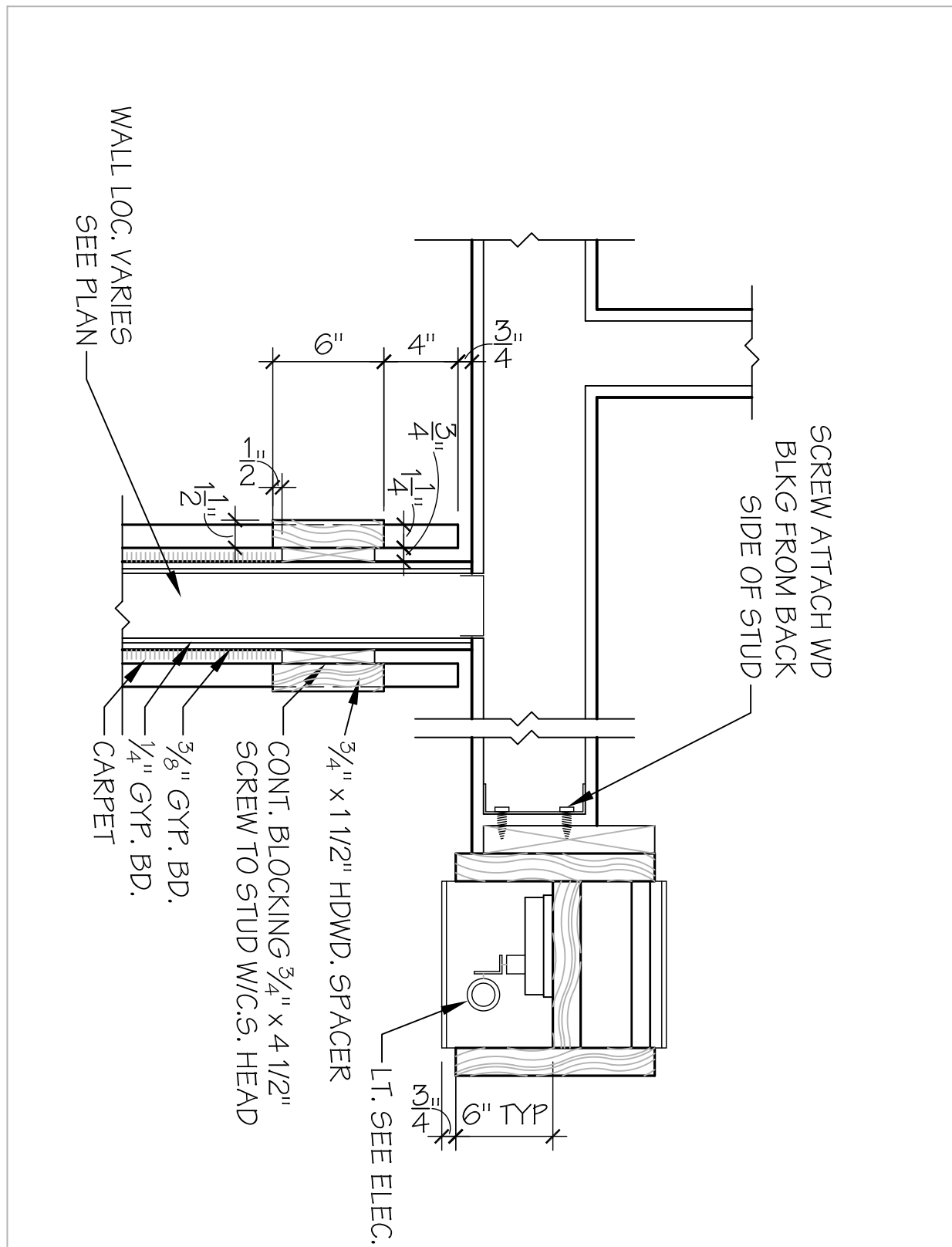
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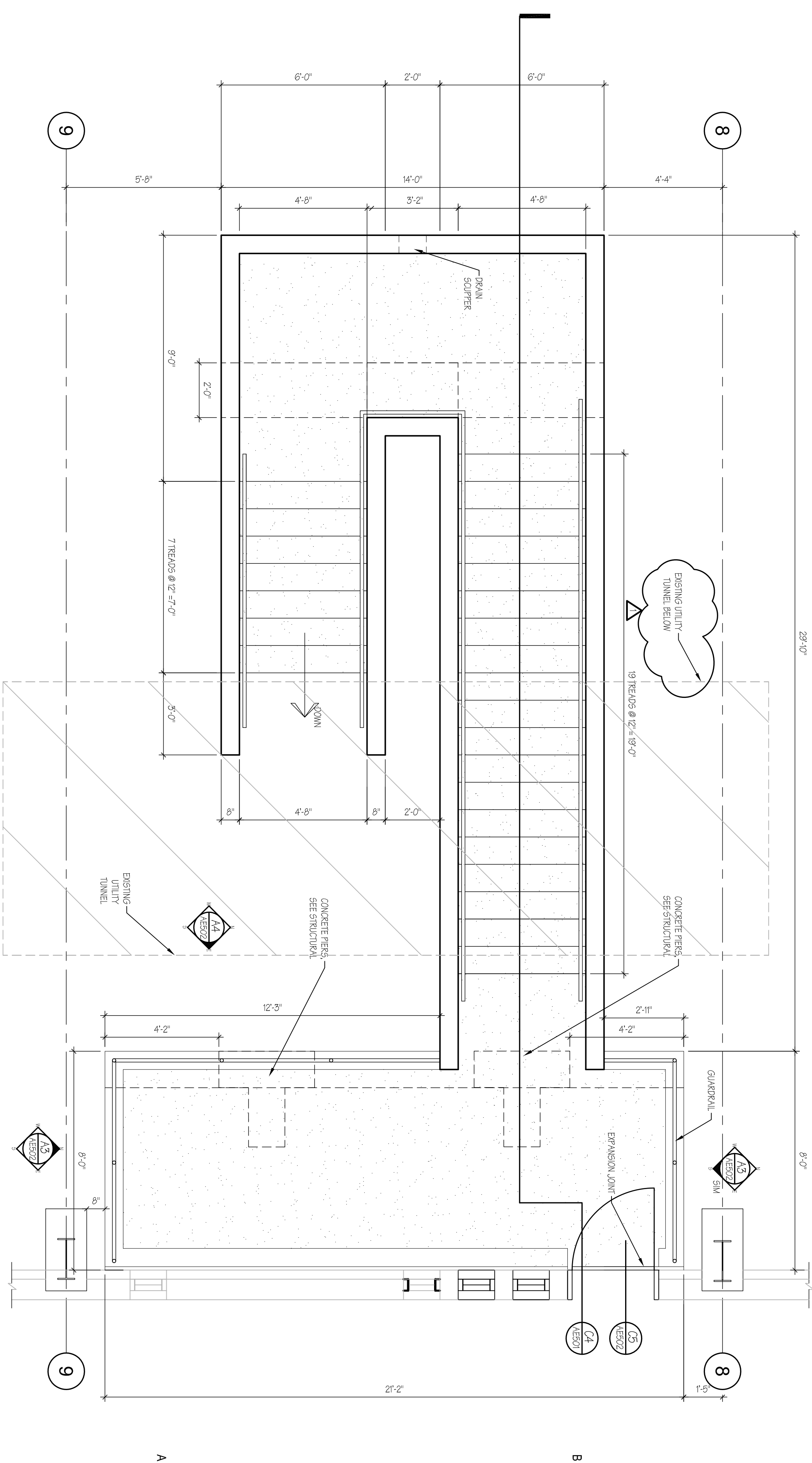
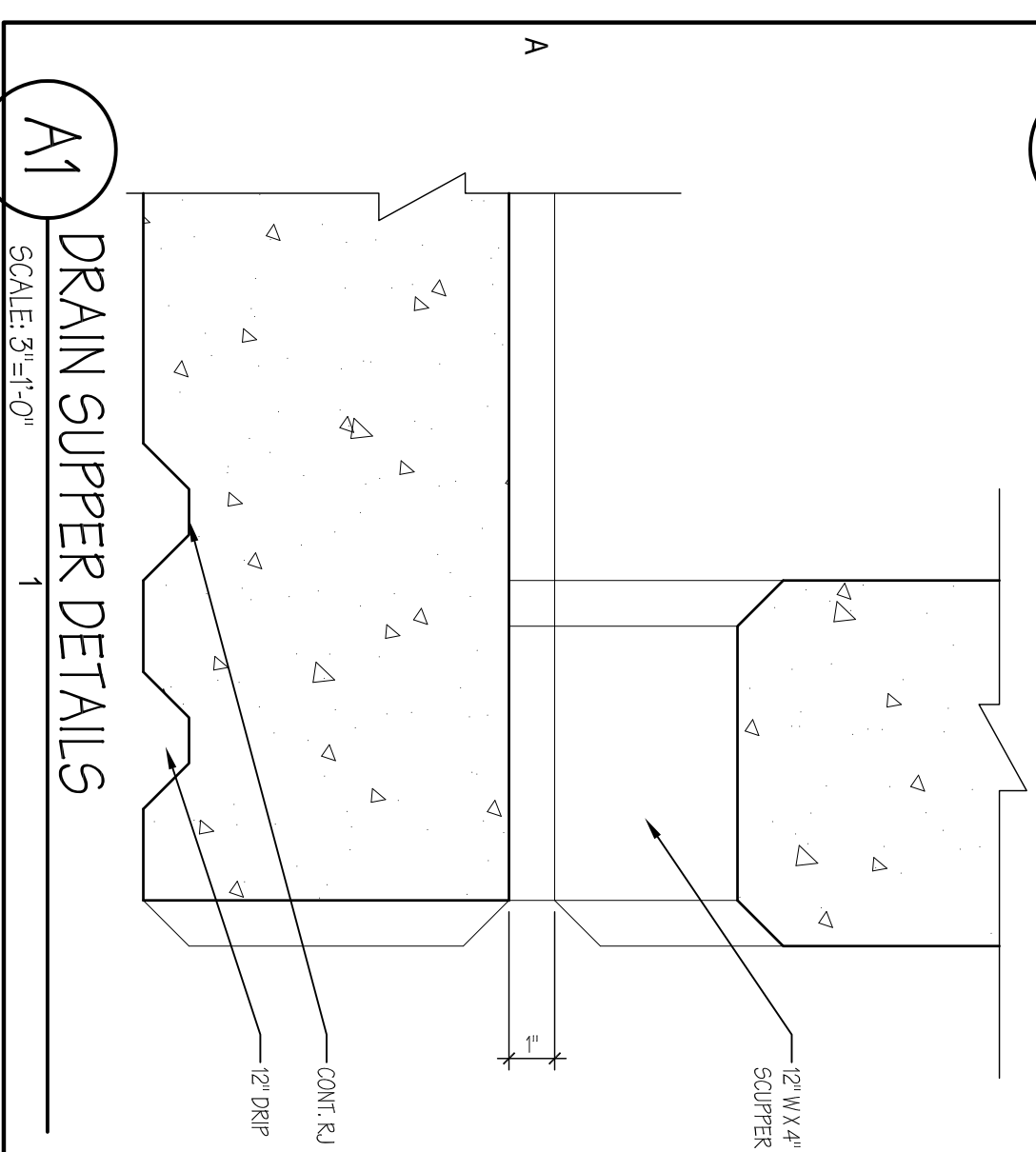
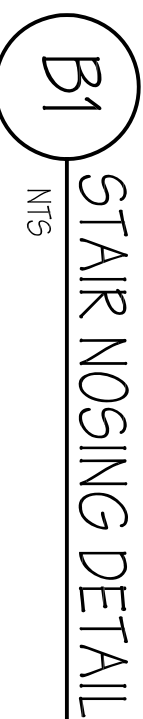
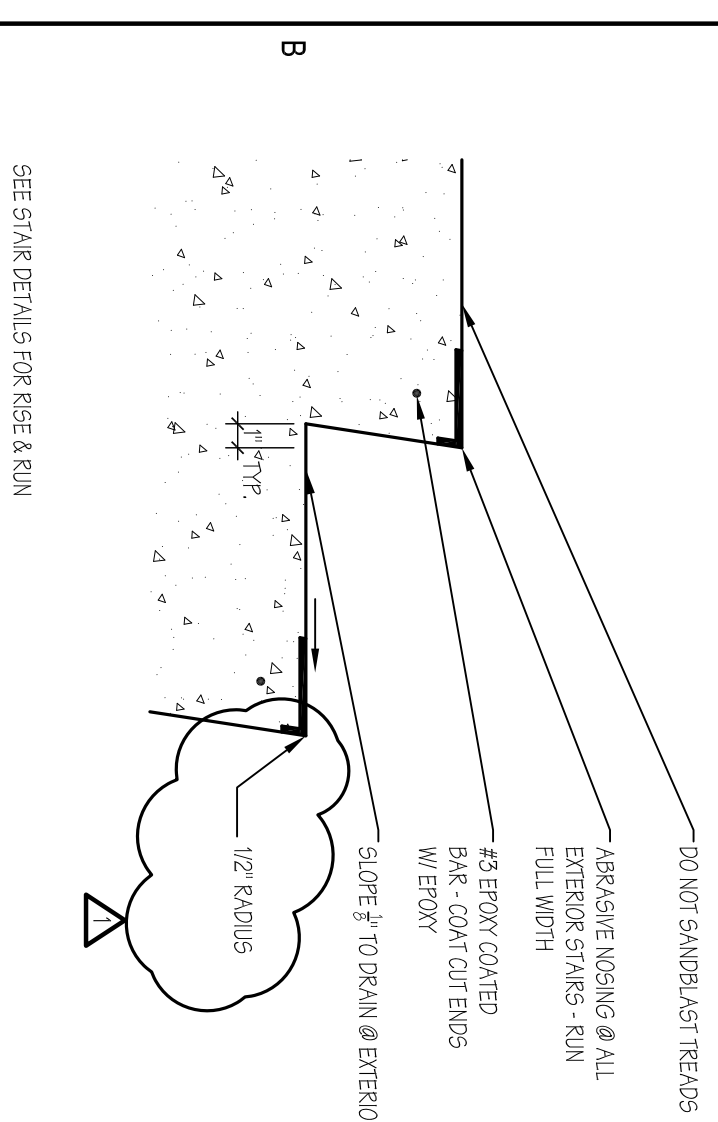
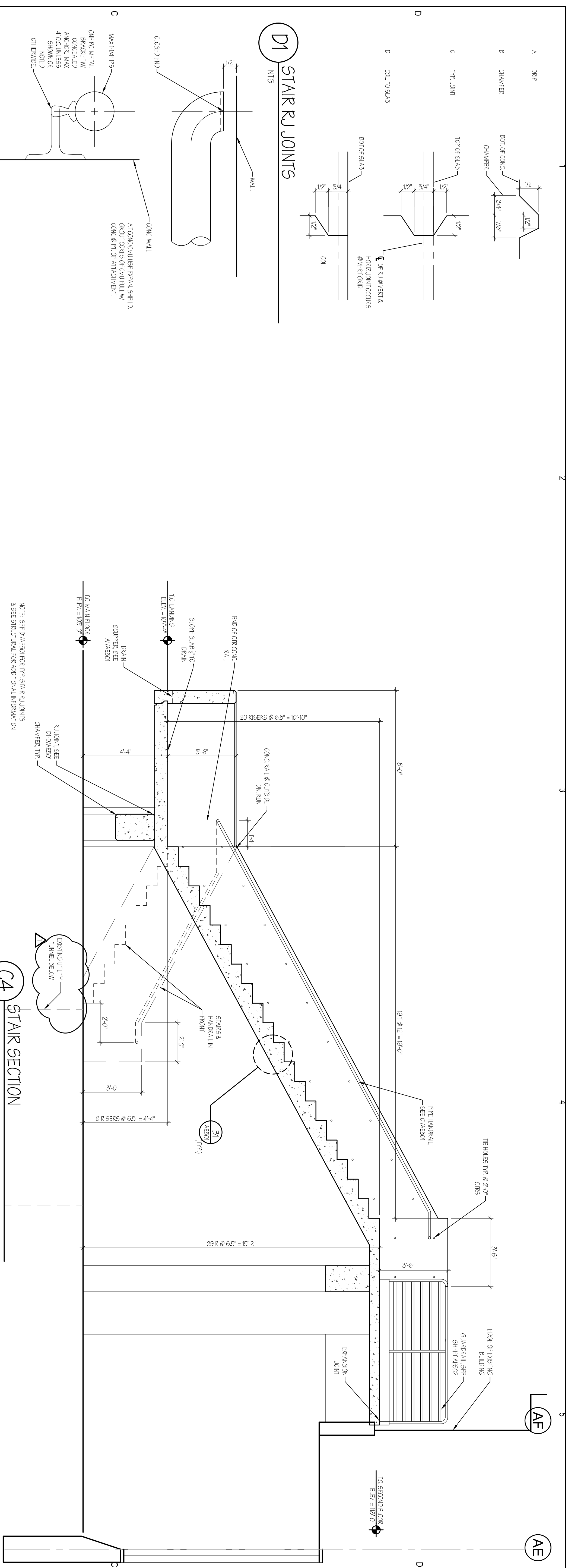




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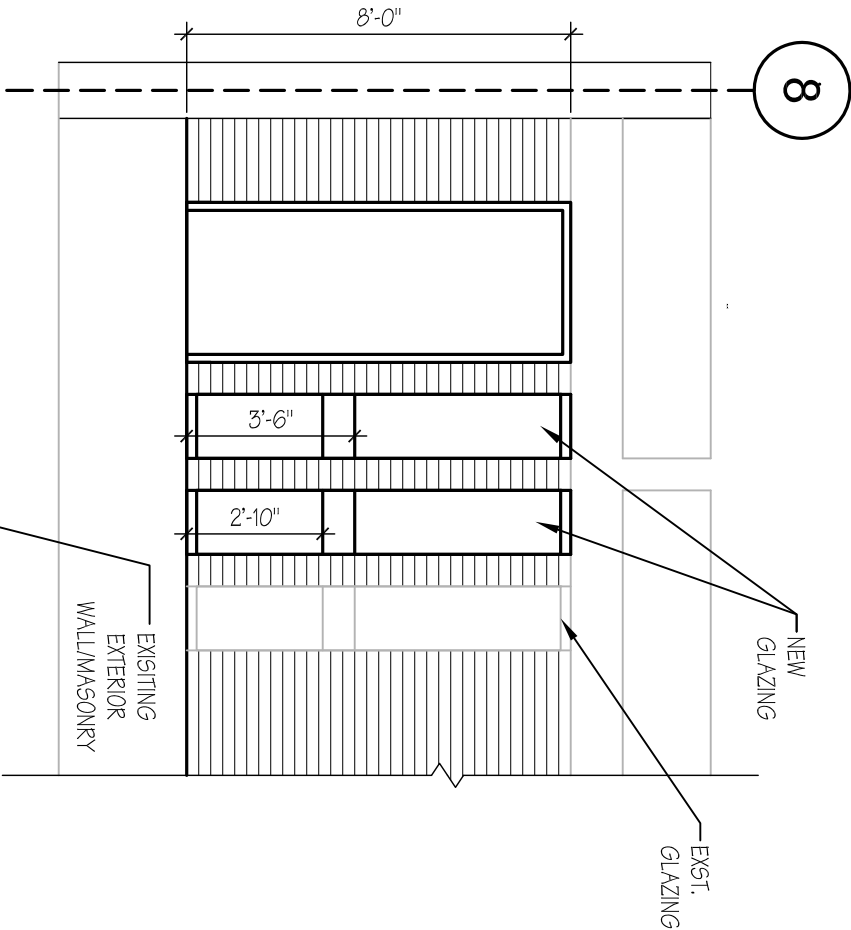
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& DETAILS

AE501

OF



B3

EXTERIOR WINDOW ELEV

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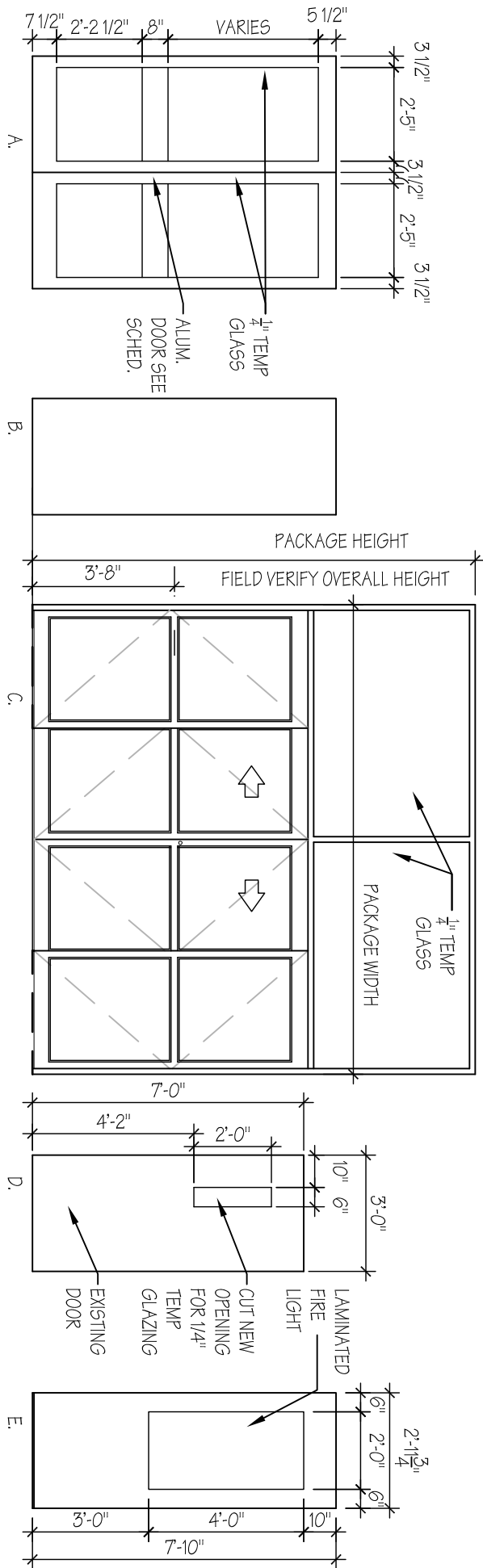
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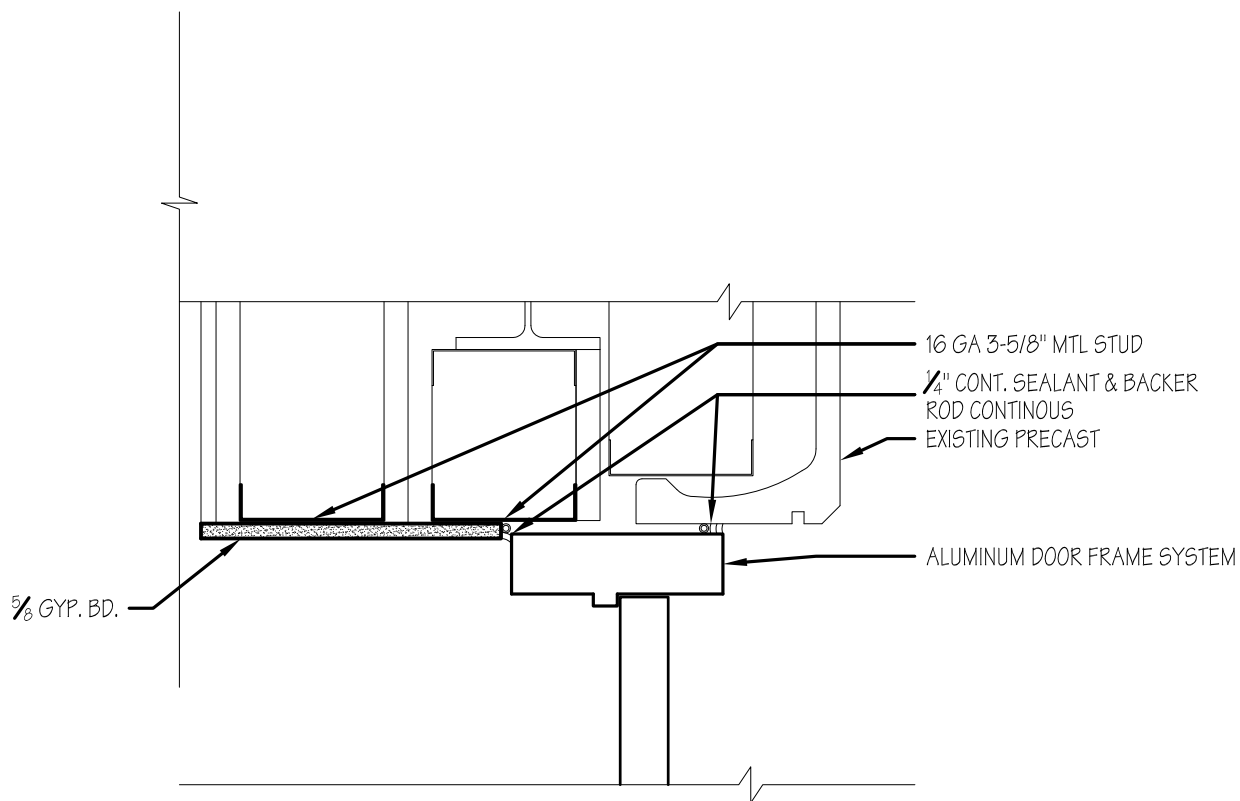
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C4

DOOR TYPES

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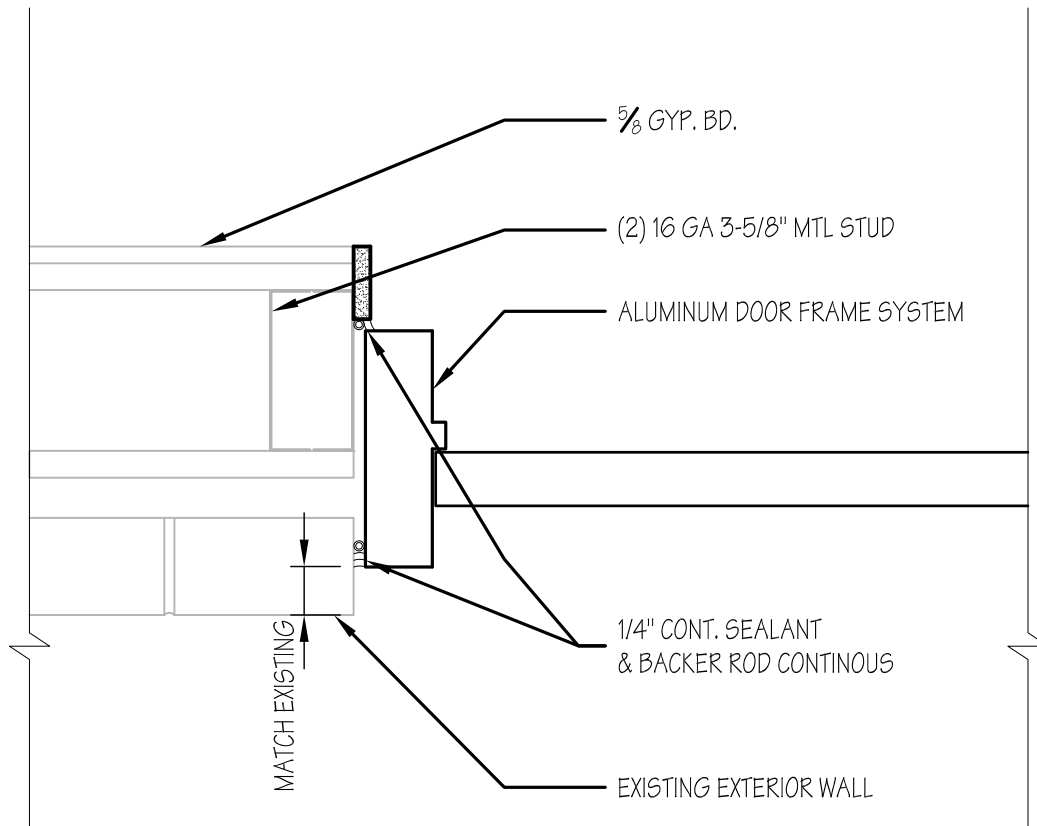


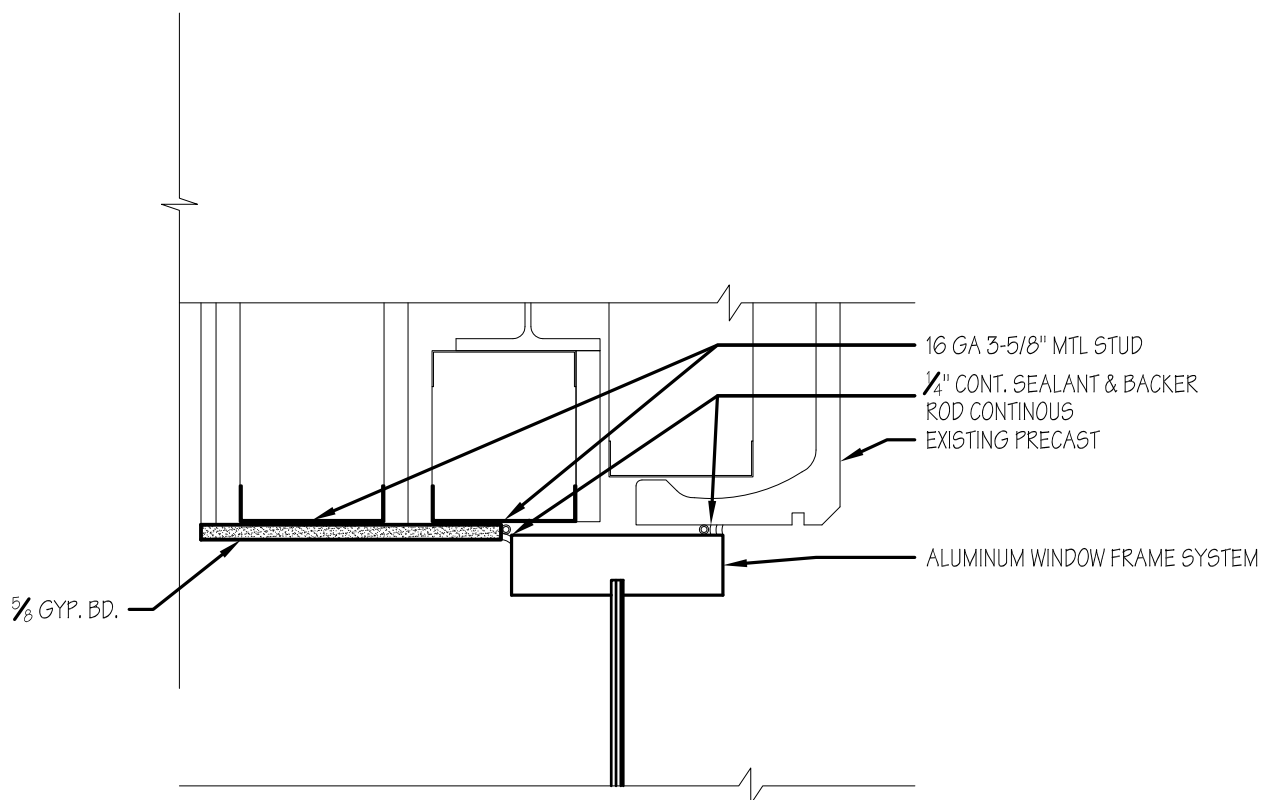
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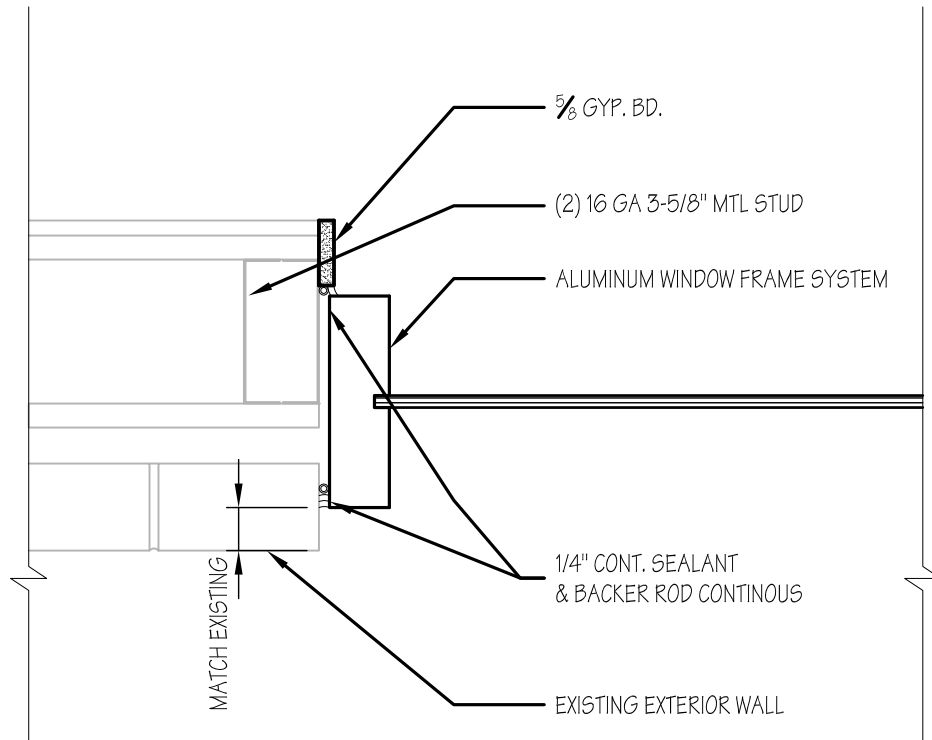
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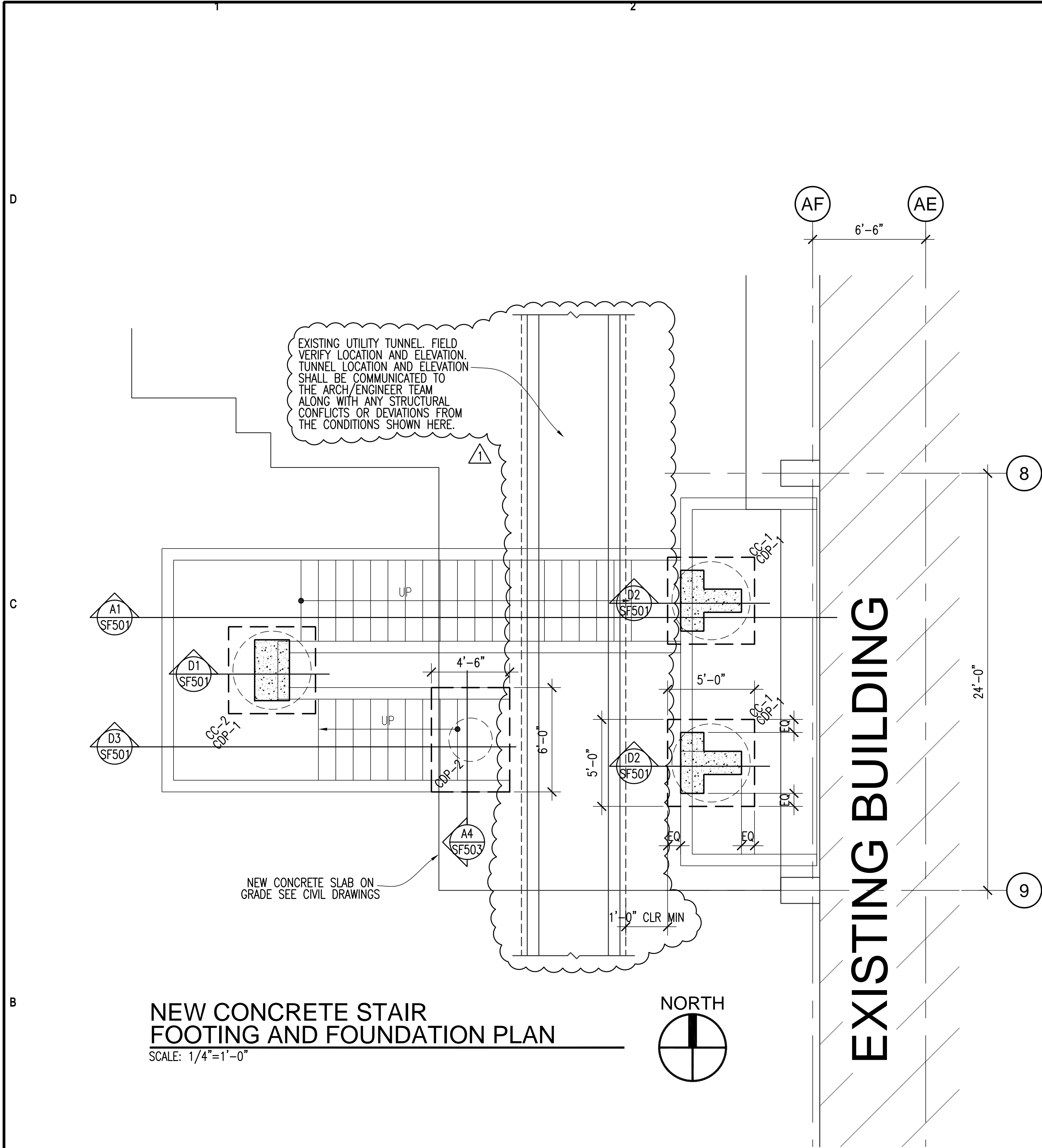








Sheet L1.1 photo to show sign on Note #3 and concrete wall mentioned on Note #4



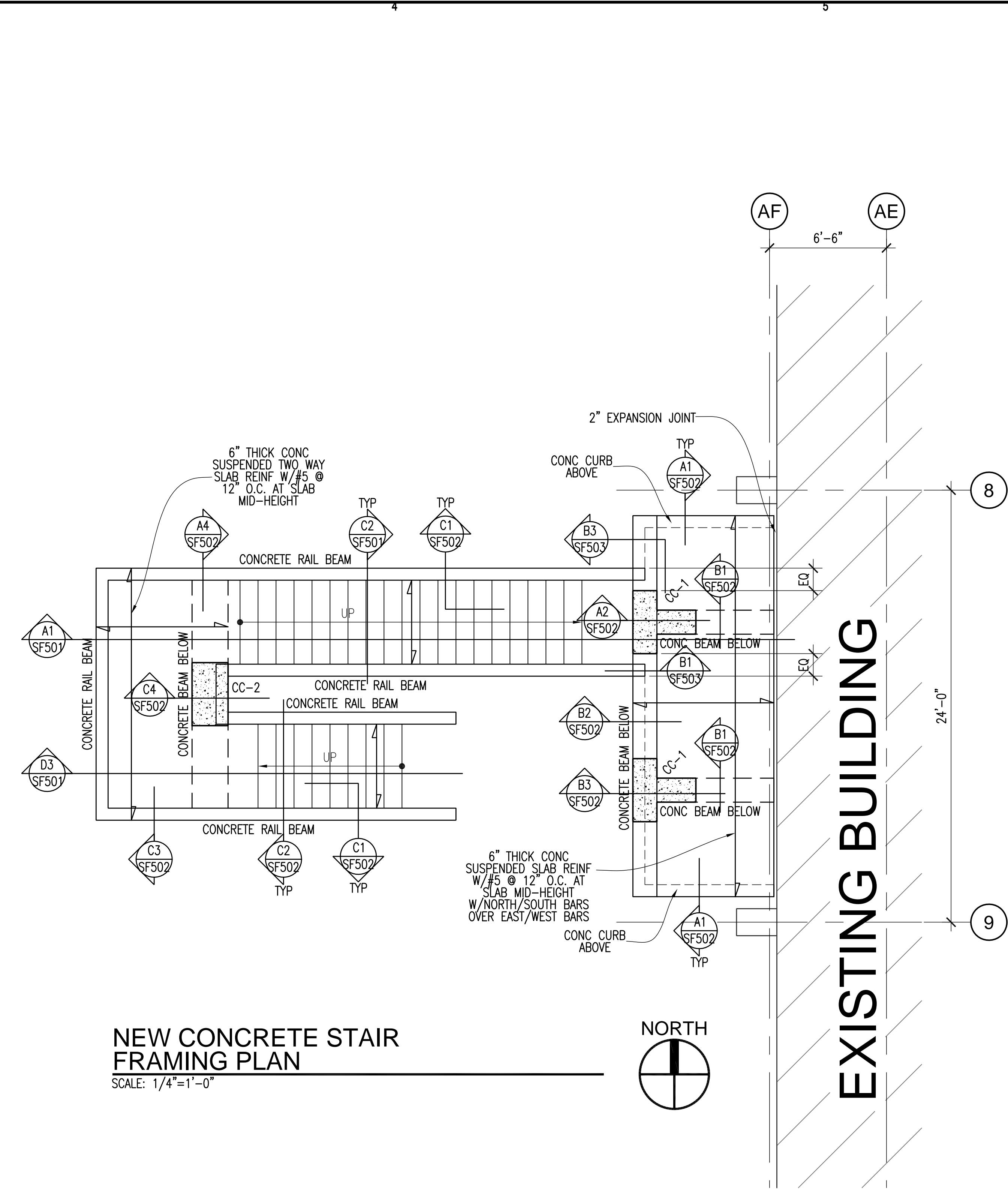
NEW CONCRETE STAIR  
FOOTING AND FOUNDATION PLAN  
SCALE: 1/4"=1'-0"

FOOTING & FOUNDATION  
PLAN NOTES

- SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS ETC.
- CONCRETE DRILLED PIERS SHALL BE POURED THE SAME DAY THAT THE HOLES ARE DRILLED.
- CONCRETE DRILLED PIERS SHALL BE CASED AS REQUIRED TO PREVENT HOLE COLLAPSE BEFORE CONCRETE PLACEMENT.
- CONTRACTOR SHALL PERFORM ADDITIONAL SOILS INVESTIGATION INCLUDING TWO BORINGS, ONE ON EACH SIDE OF EXISTING TUNNEL AT LOCATIONS OF NEW PIERS SUPPORTING CONCRETE COLUMNS. RESULTS FROM BORINGS SHALL BE GIVEN TO ARCH/ENGINEER TEAM TO VERIFY CURRENT DESIGN.
- THE CONTRACTOR SHALL NOT DIG TEST PITS TO OBTAIN SOILS INFORMATION WITHIN 20 FEET OF PROPOSED NEW CONCRETE PIER LOCATIONS.

CONCRETE FRAMING PLAN  
LEGEND

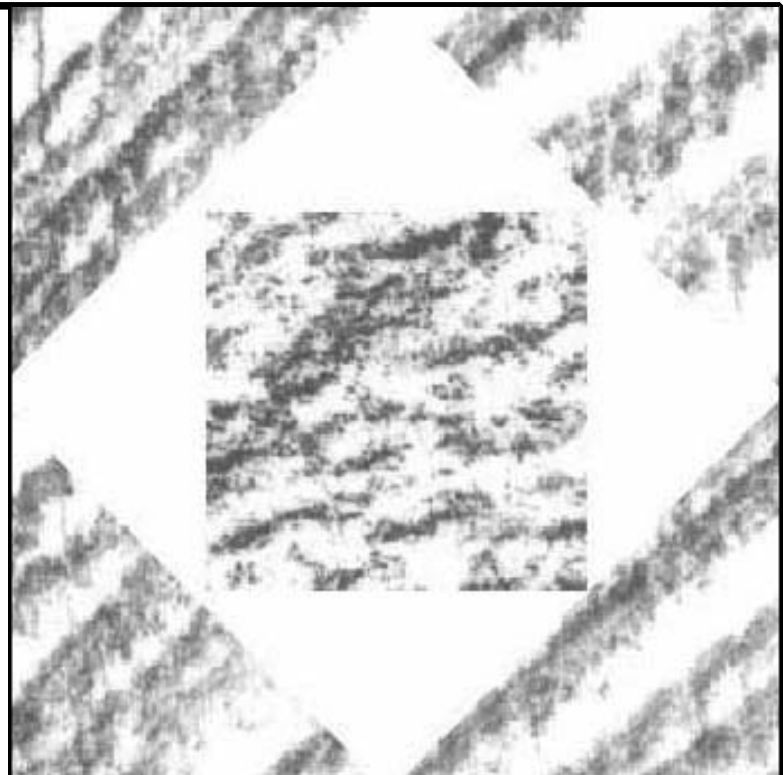
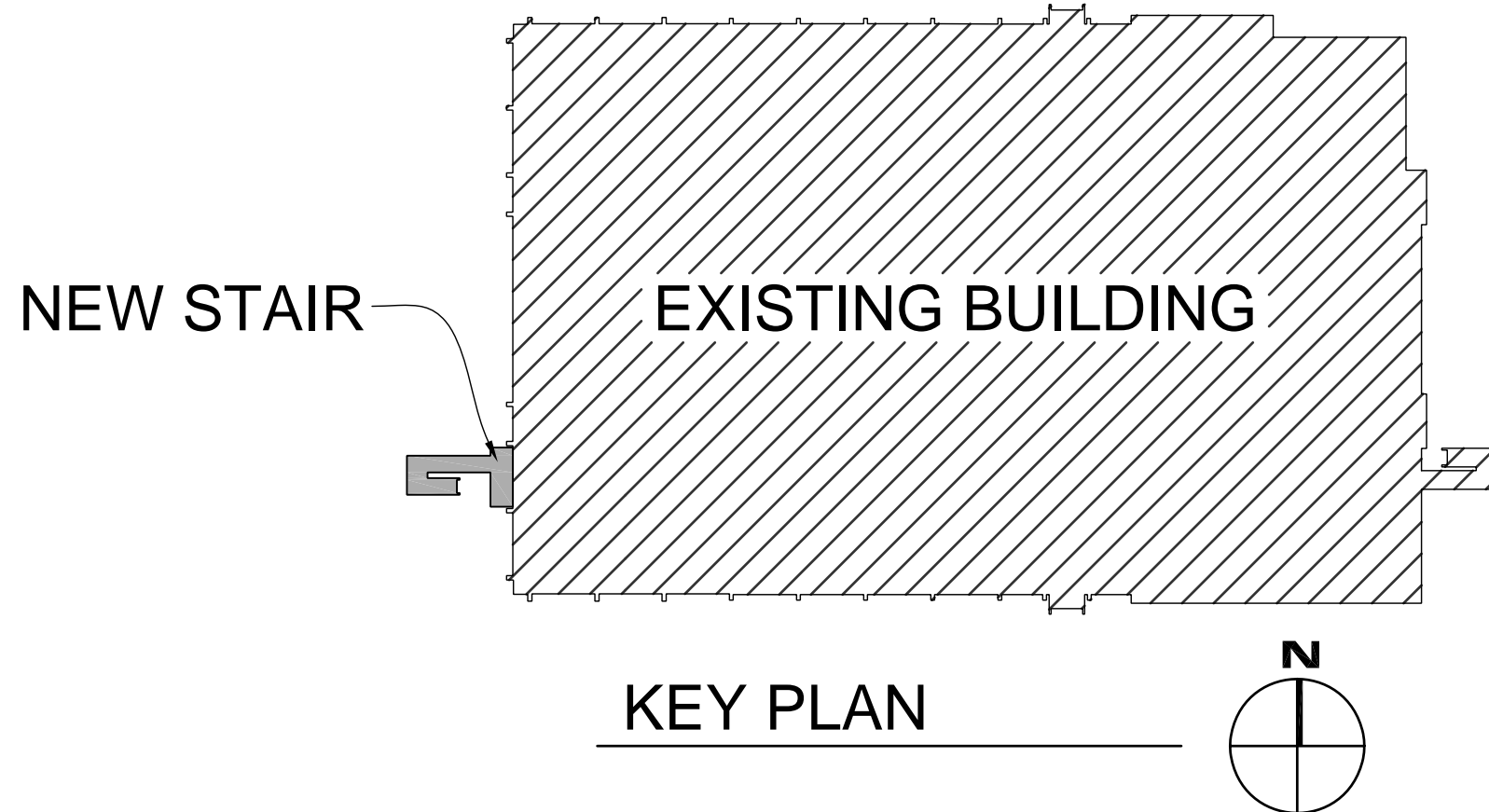
- CONCRETE DRILLED PIER
- CONCRETE PIER CAP
- CONCRETE COLUMN
- CONCRETE BEAM



NEW CONCRETE STAIR  
FRAMING PLAN  
SCALE: 1/4"=1'-0"

FRAMING PLAN NOTES

- ALL REINFORCING IN CONCRETE ABOVE GRADE SHALL BE EPOXY COATED.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF ALL REVEALS, CHAMFERS AND DRIP LINES ECT.
- SEE DETAIL A3/SF502 FOR TYPICAL REINFORCING AT WALL/BREAM CORNERS.
- SEE ARCH FOR STAIR AND LANDING ELEVATIONS AND DIMENSIONS.
- SEE ARCH DRAWINGS FOR DRAINAGE REQUIREMENTS INCLUDING SLOPES AND SCUPPERS.
- CONCRETE COVER REQUIREMENTS PER GSN SHALL APPLY AT ALL ARCHITECTURAL REVEALS, CHAMFERS AND DRIP LINES ECT.

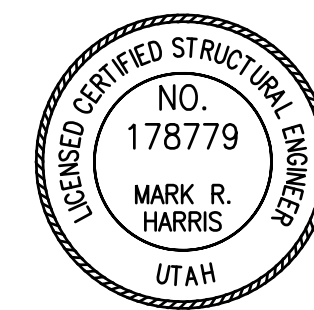


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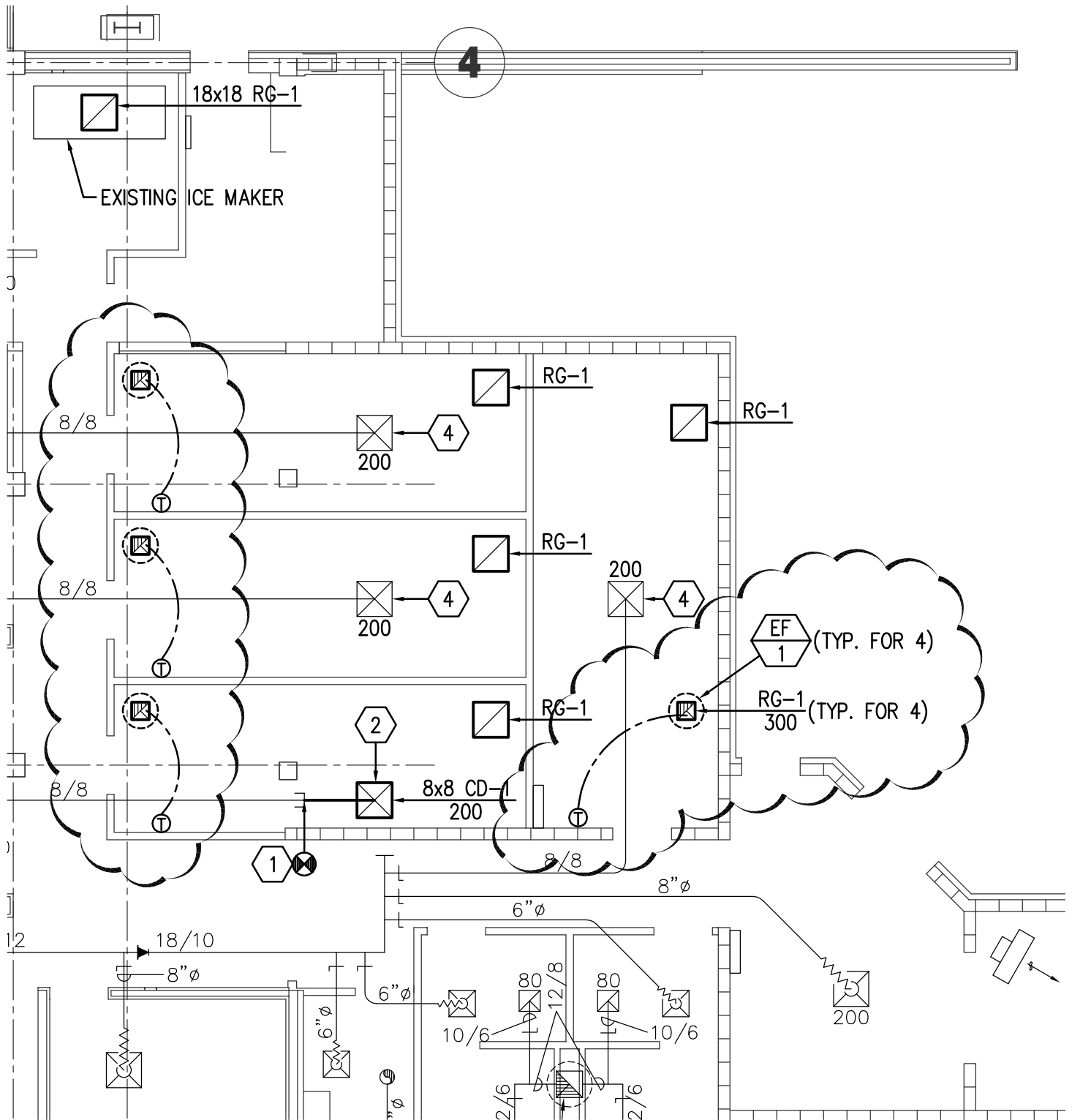
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HFS PROJECT NO:	0762.01
CAD DWG FILE NO:	
DRAWN BY:	CEB
CHECKED BY:	MRH
DESIGNED BY:	JB
DWG TYPE:	
ARCHITECTURAL PHASE:	CONSTRUCTION DOCUMENTS

SHEET TITLE  
**STAIR FOOTING AND  
FOUNDATION/  
FRAMING PLANS**

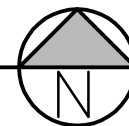
**SF101**

SHEET OF



# FIRST FLOOR MECHANICAL PLAN

SCALE: 1/8"=1'-0"



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## STUDENT CENTER IMPROVEMENTS SALT LAKE COMMUNITY COLLEGE REDWOOD CAMPUS

VBFA PROJECT #: 08094  
CHECKED BY: NOE  
DRAWN BY: EXU  
CURRENTED DATE: September 16, 2008  
SHEET CONTENTS

**SHEET DESCRIPTION  
FIRST FLOOR  
MECHANICAL PLAN**

**SD-01  
MH110**



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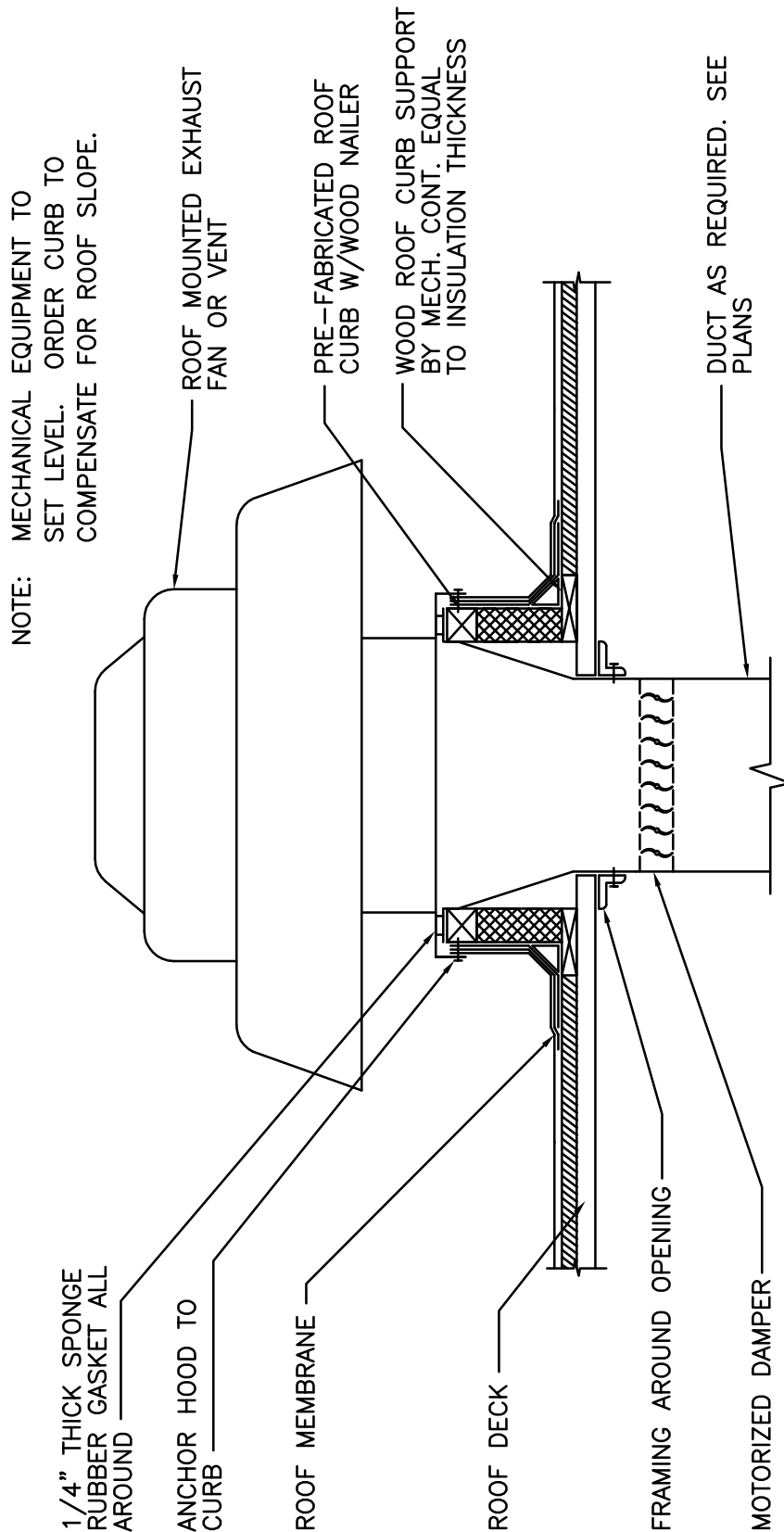
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**STUDENT CENTER IMPROVEMENTS  
SALT LAKE COMMUNITY COLLEGE  
REDWOOD CAMPUS**

VBFA PROJECT #:	08094
CHECKED BY:	NDE
DRAWN BY:	EXU
CURRENT/REV DATE:	September 18, 2008
SHEET CONTENTS	

**SHEET DESCRIPTION  
MECHANICAL  
DETAIL**

**SD-02  
MH110**



**ROOF MOUNTED EXHAUST FAN DETAIL**

**NO SCALE**



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SALT LAKE COMMUNITY COLLEGE  
REDWOOD CAMPUS

FAN SCHEDULE

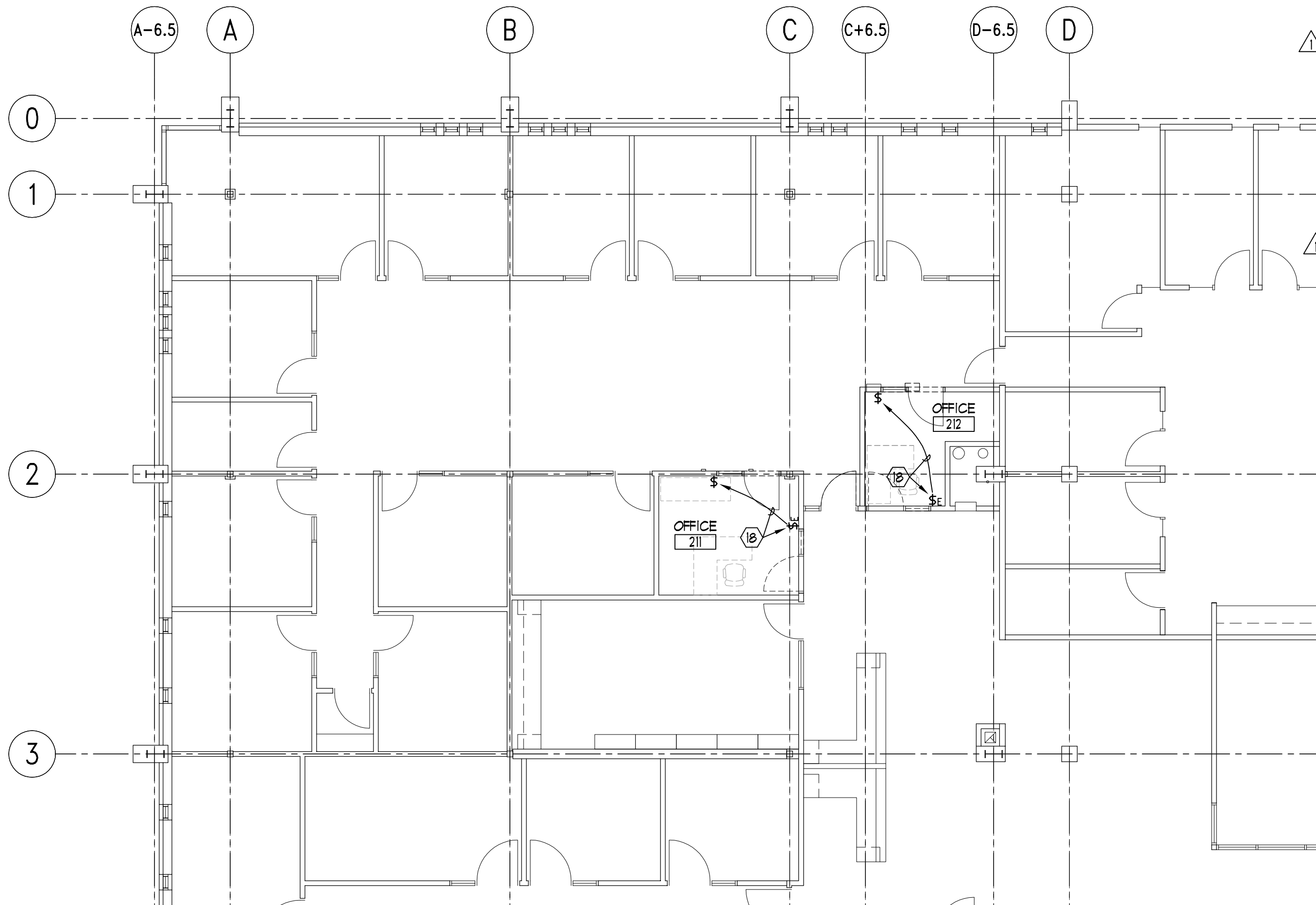
ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR TYPE	AIR		FAN			ELECTRICAL					NOTES
					MAXIMUM AIRFLOW RATE (CFM)	STATIC PRESSURE (IN. WATER)	OUTLET VELOCITY (FPM)	FAN SPEED (RPM)	FAN WHEEL DIAMETER (IN)	STATIC EFFICIENCY (%)	MOTOR SIZE (HP)	MOTOR BHP (HP)	MOTOR SPEED (RPM)	VOLT/PH/Hz	
EF-1	COOK 90C15DL	SEE PLAN	ROOF	EXH	300	0.375	NA	1715	15	NA	1/8	NA	NA	115/1/60	1

1. PROVIDE FAN COMPLETE WITH ROOF CURB AND MOTORIZED BACKDRAFT DAMPER WIRED BY DIV 15. THERMOSTATIC CONTROL.

VBFA PROJECT #:	08094
CHECKED BY:	NDE
DRAWN BY:	EXJ
CURRENT/REV DATE:	September 10, 2008
SHEET CONTENTS	

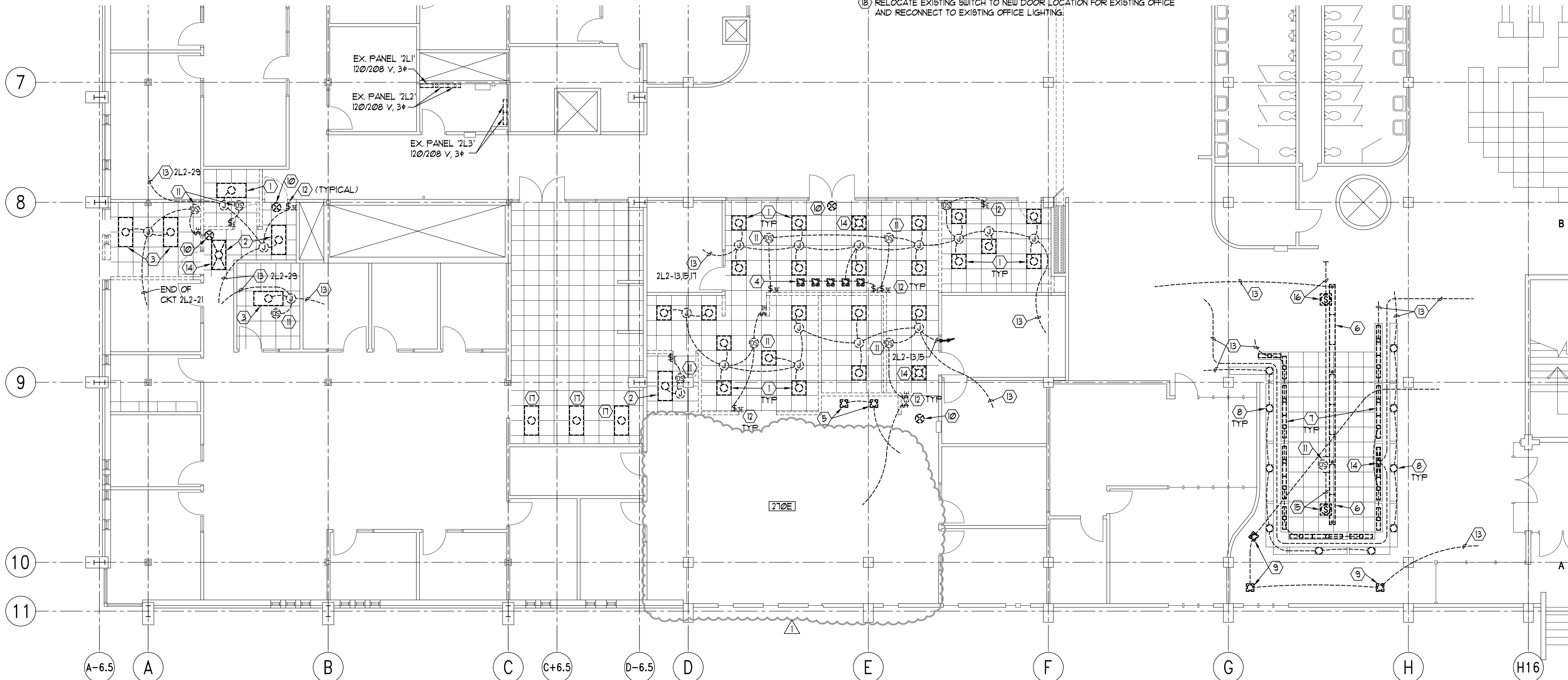
SHEET DESCRIPTION  
MECHANICAL  
SCHEDULE

SD-03  
MH110

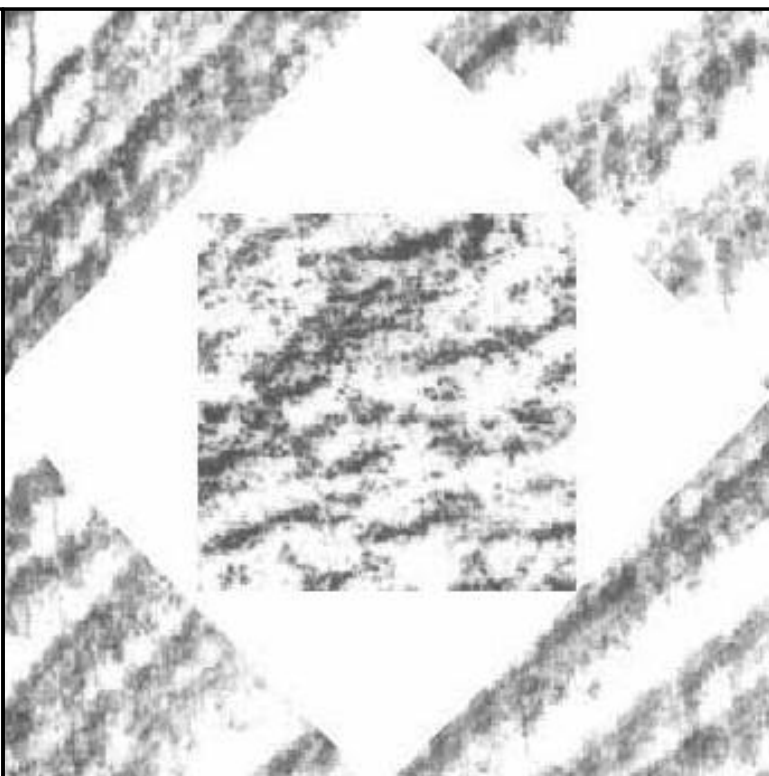


- KEYED NOTES:**
- 1 REMOVE EXISTING 2'x2', 2 LAMP FIXTURE AND SALVAGE FOR USE IN NEW CONSTRUCTION. REMOVE ALL ABANDONED WIRE, CONDUIT, BOXES, ETC.
  - 2 REMOVE EXISTING 2'x4', 2 LAMP FIXTURE INCLUDING ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 3 REMOVE EXISTING 2'x4', 4 LAMP FIXTURE INCLUDING ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 4 REMOVE EXISTING LOW VOLTAGE ADJUSTABLE DOWNLIGHT AND SALVAGE FOR USE IN NEW CONSTRUCTION. REMOVE ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 5 REMOVE EXISTING 42 WATT RECESSED COMPACT FLUORESCENT FIXTURE AND SALVAGE FOR USE IN NEW CONSTRUCTION. REMOVE ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 6 REMOVE EXISTING 3 LAMP ROW SUSPENDED INDIRECT FLUORESCENT FIXTURE AND SALVAGE FOR USE IN NEW CONSTRUCTION. REMOVE ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 7 REMOVE EXISTING 2 LAMP ROW STAGGERED FLUORESCENT STRIPLIGHTS FROM EXISTING LIGHT COVE AND SALVAGE FOR USE IN NEW CONSTRUCTION. REMOVE ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 8 REMOVE EXISTING SURFACE INCANDESCENT FIXTURE WITH 35 WATT SELF-BALLASTED COMPACT FLUORESCENT AND SALVAGE FOR USE IN NEW CONSTRUCTION. REMOVE ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 9 REMOVE EXISTING RECESSED LOW VOLTAGE DOWNLIGHT INCLUDING ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 10 REMOVE EXISTING CEILING MOUNTED EXIT LIGHT AND SALVAGE FOR USE IN NEW CONSTRUCTION. REMOVE ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 11 REMOVE EXISTING CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR AND SWITCHPACK AND SALVAGE FOR USE IN NEW CONSTRUCTION. REMOVE ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 12 REMOVE EXISTING SWITCHES INCLUDING ALL ABANDONED WIRE, CONDUIT, BOXES, SUPPORTS, ETC.
  - 13 SEE SECOND FLOOR LIGHTING PLAN, SHEET EL103, FOR RECONNECTION OF EXISTING CIRCUITS TO ADJACENT ROOMS.
  - 14 EXISTING FIXTURE CONNECTED TO EXISTING EMERGENCY PANEL 'EL6' LOCATED IN BASEMENT ELECTRICAL ROOM. MAKE TEMPORARY CONNECTIONS AS REQUIRED TO KEEP EXISTING EMERGENCY LIGHTING CIRCUIT TO ADJACENT AREAS INTACT THROUGHOUT CONSTRUCTION.
  - 15 REMOVE EXISTING SPEAKER INCLUDING ALL ABANDONED WIRING, CONDUIT, BOXES, ETC.
  - 16 EXISTING SPEAKER AND CIRCUIT TO ADJACENT SPEAKER TO REMAIN.
  - 17 REMOVE 3 EXISTING FIXTURES TO ALLOW INSTALLATION OF NEW FULL HEIGHT CABINETS. RELOCATED FIXTURES AS SHOWN ON SHEET EL101.
  - 18 RELOCATE EXISTING SWITCH TO NEW DOOR LOCATION FOR EXISTING OFFICE AND RECONNECT TO EXISTING OFFICE LIGHTING.

- GENERAL NOTES:**
- LOCATIONS OF EXISTING ELECTRICAL EQUIPMENT, LIGHTING, SWITCHES, OUTLETS, BRANCH CIRCUIT WIRING, ETC., ARE BASED ON EXISTING BUILDING ELECTRICAL DRAWINGS AND FIELD OBSERVATION OF EXISTING SURFACE CONDITIONS. FIELD VERIFY EXISTING LOCATIONS AND CIRCUITING AND IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES WHICH MAY ADVERSELY AFFECT COMPLETION OF THE WORK.
  - DEMOLITION PLAN IS SHOWN FOR CONTRACTORS REFERENCE ONLY. FIELD VERIFY QUANTITIES AND LOCATIONS OF ALL EXISTING MATERIAL AND EQUIPMENT TO BE REMOVED. REMOVE ALL ABANDONED CONDUIT WIRING, JUNCTION BOXES, OUTLETS, LIGHT FIXTURES, EQUIPMENT, ETC. WHETHER SPECIFICALLY SHOWN OR NOT.
  - REMOVE ALL EXISTING FIXTURES, OUTLETS, SWITCHES, ETC., SHOWN, EXCEPT WHERE SPECIFICALLY NOTED TO REMAIN OR BE RELOCATED.
  - CONTRACTOR MAY USE EXISTING BRANCH CIRCUIT WIRING AND RACEWAYS WHERE CONVENIENT TO CONNECT TO NEW ELECTRICAL DEVICES ONLY IF THE EXISTING WIRING AND RACEWAYS ARE IN GOOD CONDITION AND MEET DIVISION 16 SPECIFICATION REQUIREMENTS FOR NEW WIRING AND RACEWAYS.
  - WHERE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT INTERRUPTS EXISTING BRANCH CIRCUITS OR FEEDERS TO EXISTING EQUIPMENT TO REMAIN, FURNISH AND INSTALL NEW CONDUIT AND WIRING AS REQUIRED TO RECONNECT THE EXISTING EQUIPMENT TO REMAIN.
  - ALL MATERIALS AND EQUIPMENT REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE TURNED OVER TO THE OWNER FOR STORAGE OR BE DISPOSED OF BY THE CONTRACTOR AS DIRECTED BY THE OWNER.
  - TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO THE EXISTING BUILDING. REPAIR ALL DAMAGE INCURRED BY DEMOLITION AND NEW CONSTRUCTION TO EXACTLY MATCH SURROUNDING SURFACES AND/OR CONDITIONS WITHOUT ADDITIONAL COST TO THE OWNER. COORDINATE REPAIRS WITH THE GENERAL CONTRACTOR.



**A1 SECOND FLOOR LIGHTING DEMOLITION PLAN**  
SCALE: 1/8" = 1'-0"  
0 4' 8' 16'



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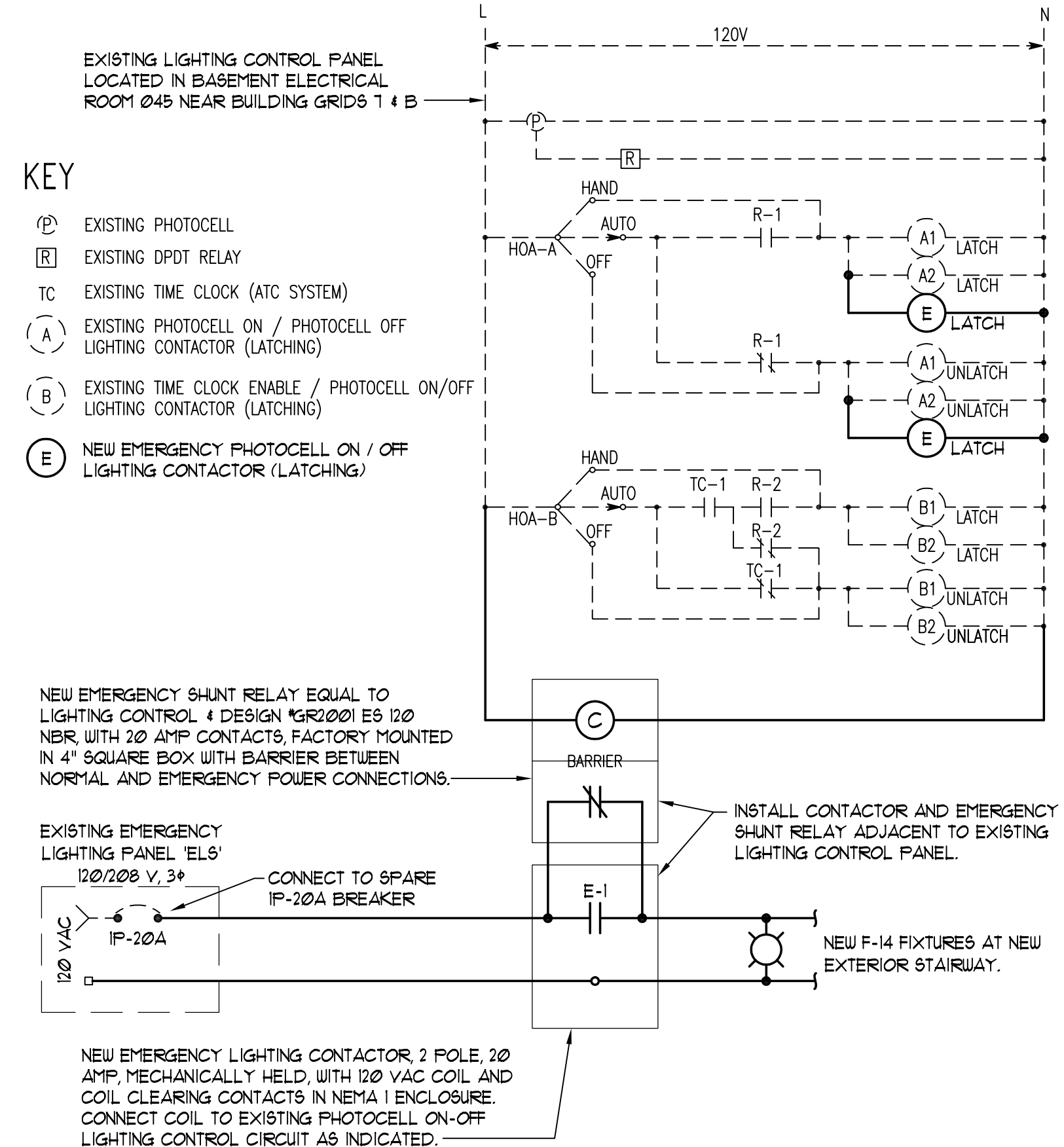
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**STUDENT CENTER  
IMPROVEMENTS**  
SALT LAKE COMMUNITY COLLEGE  
REDWOOD CAMPUS

MARK	DATE	DESCRIPTION
△	9-12-08	ADDENDUM NO. 2

DATE:	July 9, 2008
AGENCY PROJECT NO:	07353660
HFS PROJECT NO:	0762.01
CAD DWG FILE NO:	0762 E-104.dwg
DRAWN BY:	W.B.G.
CHECKED BY:	R.G.K.
DESIGNED BY:	W.B.G.
DWG TYPE:	ELECTRICAL
ARCHITECTURAL PHASE:	CONSTRUCTION DOCUMENTS

SHEET TITLE  
**SECOND FLOOR  
LIGHTING  
DEMOLITION PLAN**

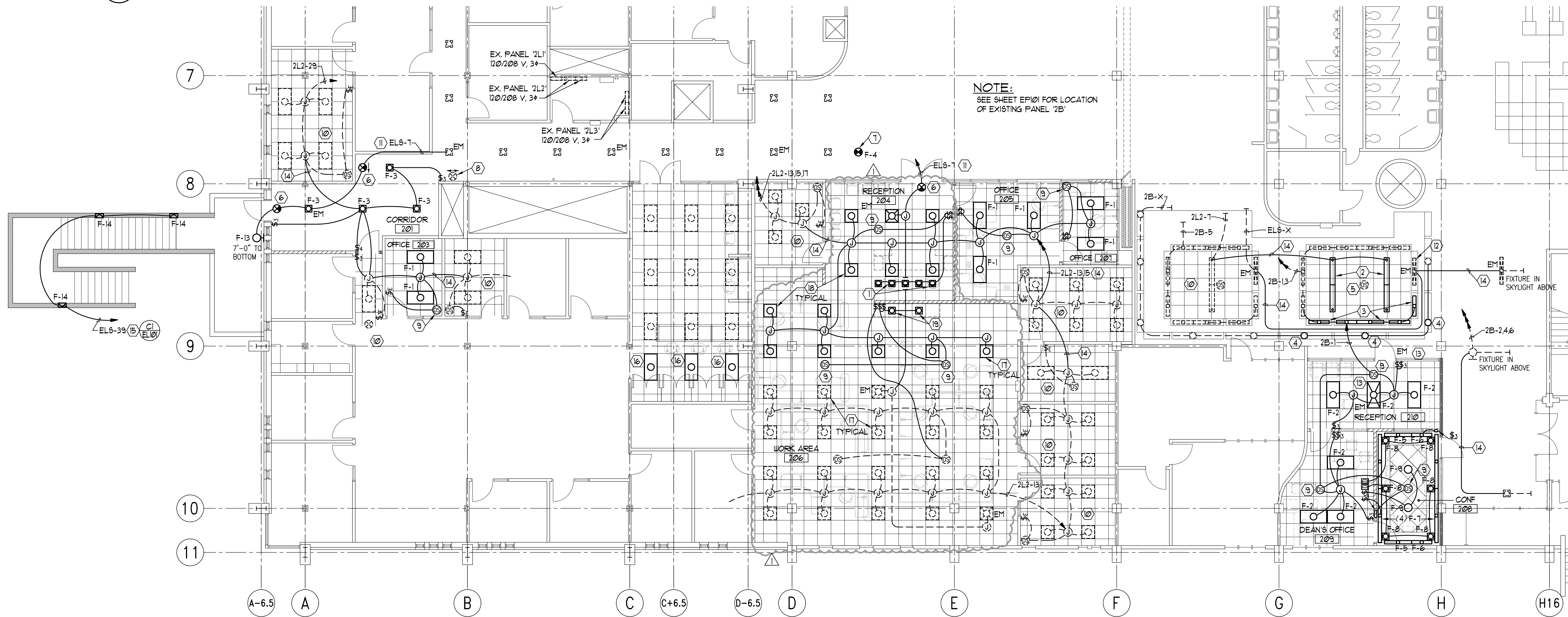


**NEW EXTERIOR STAIR EMERGENCY LIGHTING CONTROL WIRING DIAGRAM**  
SCHEMATIC

- KEYED NOTES:**
- INSTALL LOW VOLTAGE ADJUSTABLE DOWNLIGHTS SALVAGED FROM DEMOLITION IN NEW CEILING AND CIRCUIT AS SHOWN. CLEAN FIXTURE, RELAMP WITH NEW 50 WATT MR16 LAMP AND LEAVE IN PROPER WORKING ORDER.
  - INSTALL 3 LAMP ROW SUSPENDED INDIRECT FLUORESCENT FIXTURE SALVAGED FROM DEMOLITION IN EXISTING CEILING AND RECONNECT EXISTING CIRCUIT. PROVIDE NEW CORDS AND/OR SUPPORTS AS REQUIRED FOR INSTALLATION. CLEAN FIXTURES, RELAMP WITH NEW F32T8 LAMPS AND LEAVE IN PROPER WORKING ORDER. PROVIDE 2 NEW END CAPS FROM ORIGINAL FIXTURE MANUFACTURER TO FINISH ROW ENDS.
  - INSTALL 2 LAMP ROW STAGGERED FLUORESCENT STRIPLIGHTS IN NEW OR MODIFIED LIGHT COVE AND RECONNECT EXISTING CIRCUIT. RELAMP WITH NEW F32 OR F32 T8 LAMPS AS REQUIRED, AND LEAVE IN PROPER WORKING ORDER.
  - INSTALL SURFACE INCANDESCENT FIXTURES SALVAGED FROM DEMOLITION IN NEW MODIFIED LIGHT COVE AND RECONNECT EXISTING CIRCUIT. RELAMP WITH NEW 35 WATT SELF BALLASTED COMPACT FLUORESCENT LAMPS TO MATCH EXISTING LAMPS AND LEAVE IN PROPER WORKING ORDER.
  - EXISTING OCCUPANCY SENSOR AND SWITCHPACK TO REMAIN. RECONNECT TO CONTROL MODIFIED COVE LIGHTING AS REQUIRED.
  - INSTALL CEILING MOUNTED EXIT LIGHT SALVAGED FROM DEMOLITION AND CONNECT TO EMERGENCY LIGHTING CIRCUIT AS INDICATED.
  - REPLACE EXISTING SINGLE FACE EXIT LIGHT WITH NEW DOUBLE FACE EXIT SIGN AT THE SAME LOCATION AND RECONNECT EXISTING CIRCUIT.
  - REMOVE KNOCKOUT ARROW IN EXISTING EXIT LIGHT TO INDICATE NEW DIRECTION OF EXIT.
  - INSTALL CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSORS AND SWITCHPACKS SALVAGED FROM DEMOLITION AND CONNECT TO CONTROL NEW LIGHTING AS SHOWN. CONNECT ROOM SWITCHES TO LOAD SIDE OF SWITCHPACK FOR LOCAL "OFF" CONTROL OF LIGHTING.
  - EXISTING FIXTURES, SWITCHES, ETC., IN EXISTING ROOM TO REMAIN. SHOWN FOR CIRCUITING REFERENCE ONLY.

- KEYED NOTES:**
- CONNECT NEW EMERGENCY LIGHTING TO EXISTING EMERGENCY CIRCUIT AS INDICATED. FIELD VERIFY EXISTING CIRCUIT CAPACITY PRIOR TO BEGINNING WORK.
  - REMOVE EXISTING NORMAL POWER BRANCH CIRCUIT TO EXISTING FIXTURE AND CONNECT TO EMERGENCY BRANCH CIRCUIT AS INDICATED.
  - CONNECT 1 INSIDE LAMP OF NEW FIXTURE TO EMERGENCY LIGHTING CIRCUIT. CIRCUIT AND SWITCH OUTSIDE LAMPS WITH GENERAL ROOM LIGHTING.
  - RECONNECT EXISTING BRANCH CIRCUIT INTERRUPTED BY DEMOLITION.
  - CONNECT NEW STEPLIGHTS TO EXISTING EMERGENCY PANEL 'ELS' THROUGH NEW EXTERIOR EMERGENCY LIGHTING CONTROL PANEL IN BASEMENT ELECTRICAL ROOM NEAR GRIDS 1 & B. SEE CONTROL WIRING DIAGRAM THIS SHEET. SAWCUT, REMOVE, AND REPAIR EXISTING CONCRETE BETWEEN NEW STAIR AND EXISTING BUILDING AS REQUIRED TO INSTALL NEW UNDERGROUND CONDUIT INTO BUILDING.
  - INSTALL FIXTURES REMOVED TO ALLOW INSTALLATION OF NEW FULL HEIGHT CABINETS. RECONNECT EXISTING CIRCUIT.
  - EXISTING 2'x2' 2 LAMP FIXTURES TO REMAIN. CLEAN FIXTURES, RELAMP WITH NEW 34 WATT T8 LAMPS TO MATCH EXISTING LAMPS, AND LEAVE IN PROPER WORKING ORDER.
  - INSTALL 2'x2' 2 LAMP FIXTURES SALVAGED FROM DEMOLITION AT NEW LOCATIONS SHOWN. CLEAN FIXTURES, RELAMP, AND LEAVE IN PROPER WORKING ORDER.
  - INSTALL 42 WATT RECESSED COMPACT FLUORESCENT FIXTURES SALVAGED FROM DEMOLITION. CLEAN FIXTURES, RELAMP, AND LEAVE IN PROPER WORKING ORDER.

- GENERAL NOTES:**
- COORDINATE FIXTURE LOCATIONS WITH ARCHITECT'S REFLECTED CEILING PLAN, CEILING CONTRACTOR, BUILDING STRUCTURE, MECHANICAL EQUIPMENT & DUCTWORK LOCATIONS, ETC.
  - CONNECT F-1 & F-2 FIXTURES WITH TWO OUTSIDE LAMPS CONTROLLED BY ONE SWITCH AND INSIDE LAMP(S) CONTROLLED BY SECOND SWITCH.
  - TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO THE EXISTING BUILDING. REPAIR ALL DAMAGE INCURRED BY DEMOLITION AND NEW CONSTRUCTION TO EXACTLY MATCH SURROUNDING SURFACES AND/OR CONDITIONS WITHOUT ADDITIONAL COST TO THE OWNER. COORDINATE REPAIRS WITH THE GENERAL CONTRACTOR.



**SECOND FLOOR NEW LIGHTING PLAN**  
SCALE: 1/8" = 1'-0"

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**STUDENT CENTER IMPROVEMENTS**  
SALT LAKE COMMUNITY COLLEGE  
REDWOOD CAMPUS

MARK	DATE	DESCRIPTION
▲	9-12-08	ADDENDUM NO. 2

DATE: July 9, 2008  
AGENCY PROJECT NO: 07353660  
HFSA PROJECT NO: 0762.01  
CAD DWG FILE NO: 0762 E-104.dwg  
DRAWN BY: W.B.G.  
CHECKED BY: R.G.K.  
DESIGNED BY: W.B.G.  
DWG TYPE: ELECTRICAL  
ARCHITECTURAL PHASE: CONSTRUCTION DOCUMENTS  
SHEET TITLE

**SECOND FLOOR  
NEW LIGHTING PLAN**

**EL101**  
SHEET 6 OF 10(ELECT)